February 1930

# Drug Markets

Established 1914

*The Magazine of the Manufacturing Drug Trade*


Editorials 123

The Pharmacopoeia—A Little Slow—Bluebird Merchandising —Destructive Advertising—Testimonials Killed—At It Again

Feature Articles

Cod Liver Oil in the Pharmacopoeia 127

Packing a Family 131

Choosing a Seal 135

By Francis Chilson

Demanding Psyllium Seed 137

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A Drug Rejuvenated 145

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Raw Material Market

Fine Chemicals 179

Perfume and Flavoring Materials 188

Crude Drugs 196

Drug Market Place 206

Buyer's Guide 108

Index to Advertisers 208


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## Coming Issues

Packing operations are carried on at rates of speed that vary widely. And the plants of our leading and most efficient manufacturers are not all operated at the higher rates of speed because these manufacturers see no economy in the greater speeds. The ideas of various production men as to why they believe the rate of speeds under which they operate to be the most efficient should prove interesting.

VOL. XXVI

DRUG MARKETS, INC.
PUBLISHERS

NUMBER 2

Publication Office, 28 Renne Ave., Pittsfield, Mass. Editorial and General Office, 25 Spruce St., N. Y. City

Editor
THOMAS R. FARRELL

Business Manager
FRAZER V. SINCLAIR

PUBLISHED MONTHLY AT PITTSFIELD, MASS., SUBSCRIPTION PRICE, TWO DOLLARS A YEAR, IN ADVANCE, POSTAGE PAID TO ALL COUNTRIES; THREE WEEKS' NOTICE IS REQUIRED TO CHANGE SUBSCRIBER'S ADDRESSES, AND WHEN NOTIFYING KINDLY GIVE BOTH OLD AND NEW ADDRESSES. PRINTED BY THE SUN PRINTING COMPANY, PITTSFIELD, MASS. ENTERED AS SECOND CLASS MATTER, JANUARY 1, 1928 AT THE POST OFFICE, AT PITTSFIELD, MASS., UNDER THE ACT OF MARCH 3, 1879.

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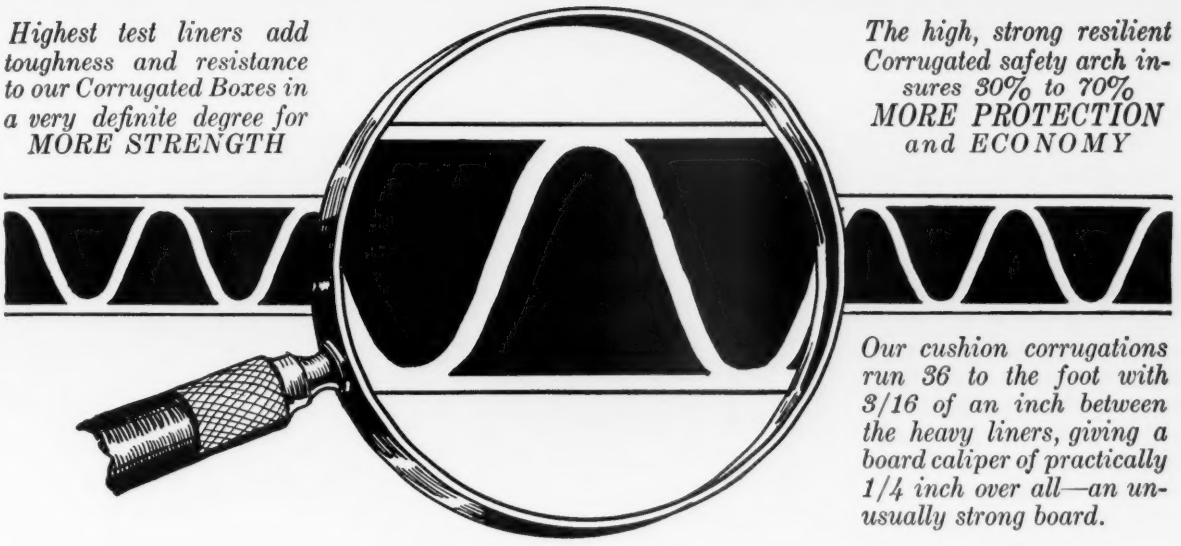
*Highest test liners add toughness and resistance to our Corrugated Boxes in a very definite degree for MORE STRENGTH*

*The high, strong resilient Corrugated safety arch insures 30% to 70% MORE PROTECTION and ECONOMY*



*Our cushion corrugations run 36 to the foot with 3/16 of an inch between the heavy liners, giving a board caliper of practically 1/4 inch over all—an unusually strong board.*

# Better Boxes Pay Dividends in Reduced Shipping Costs

IT is a well known fact that cheap fibreboard shipping boxes are more expensive in the long run than quality boxes built primarily for hard service. Slap-dash boxes, sold at an attractive low price, are sources of trouble and this fact shippers of **Drugs** or affiliated products know to be generally true. Shippers who buy quality boxes from reputable makers always experience less trouble than those who consistently buy at "rock-bottom prices" and it is logical that the best wares, whatever the merchandise may be—are never the cheapest in construction or price, and the wear is in proportion to the quality.

*Reduce your shipping costs by using better shipping boxes.*

In our processing of **corrugated** and **solid fibre shipping containers** we aim at quality—always at quality. Shippers, by using quality boxes, benefit by making definite savings and where we have access to their plants we often find we can make still greater savings by suggestions offered from our great store of experience.

We will be glad to figure with you on your requirements and help solve your packing and shipping problems, and don't forget—we furnish quality boxes only and prescribe from our great variety of regular and special types as required to fill your needs. If you write, refer to Department 7 for quick service.

## CONTAINER CORPORATION
**OF AMERICA**
**AND**
**MID-WEST BOX COMPANY**

111 W. Washington St. CHICAGO, ILLINOIS

Six Mills—Twelve Factories Capacity 1200 tons per day

# Buyers' Guide

## RAW MATERIALS

### ALCOHOL

American Commercial Alcohol Corp.
American Solvents & Chemical Corp.
The Rossville Com. Alcohol Corp.
U. S. Industrial Alcohol Co.
Pennsylvania Sugar Co.

### AROMATIC CHEMICALS

Dodge & Olcott Company
P. R. Dreyer Inc.
Euro American Corporation
Benj. French, Inc.
Fritzsche Brothers, Inc.
Givaudan Delawanna, Inc.
Magnus, Mabee & Reynard
Newport Chemical Works, Inc.
Pfaltz & Bauer, Inc.
Schering Corporation
Ungerer & Co.
van Ameringen-Haebler, Inc.
Wangler-Budd Co., Inc.

### BEESWAX

Theodor Leonhard Wax Co., Inc.
Will & Baumer Candle Co., Inc.

### BIOLOGICAL CHEMICALS

Wilson Laboratories

### BORAX

American Potash & Chemical Corp.
Pacific Coast Borax Co.

### CHALK, PRECIPITATED

H. J. Baker & Bro.
Industrial Chemical Sales Co., Inc.
John & E. Sturge, Ltd.

### COD LIVER OIL

H. J. Baker & Bro.
P. R. Dreyer Inc.
E. M. Javitz & Son
Norwegian Cod Liver Oil Association

### CRUDE DRUGS

J. L. Hopkins & Co.
McIlvaine Brothers, Inc.
S. B. Penick & Company

### ESSENTIAL OILS

W. J. Bush & Co., Inc.
California Fruit Growers Exchange
Dodge & Olcott Company
P. R. Dreyer Inc.
Euro American Corporation
Benj. French, Inc.
Fritzsche Brothers, Inc.
Givaudan-Delawanna, Inc.
Magnus, Mabee & Reynard
Newport Chemical Works, Inc.
Pfaltz & Bauer, Inc.
Plaimar, Ltd.
A. M. Todd Co.
Ungerer & Co.
van Ameringen-Haebler, Inc.
Wangler-Budd Co., Inc.

### FLAVORING MATERIALS

California Fruit Growers Exchange
Dodge & Olcott Company
P. R. Dreyer Inc.
Euro American Corporation
Fritzsche Brothers, Inc.
Magnus, Mabee & Reynard
Ungerer & Co.
van Ameringen-Haebler, Inc.
Wangler-Budd Co., Inc.

### GELATINES

Coignet Gelatines

### GLYCERIN

H. J. Baker & Bro.
Will & Baumer Candle Co., Inc.
Colgate-Palmolive-Peet Co.

### LANOLIN

E. M. Javitz & Son Inc.
Pfaltz & Bauer, Inc.

### MEDICINAL CHEMICALS

Abbott Laboratories
J. T. Baker Chemical Co.
Chas. Cooper & Co.
Dow Chemical Co.
R. W. Greeff & Co.
Heyden Chemical Corp.
Hoffman-LaRoche Chemical Works, Inc.
Mallinckrodt Chemical Works
Merck & Co., Inc.
Monsanto Chemical Works
Newport Chemical Works, Inc.
N. Y. Quinine & Chemical Works, Inc.
Chas. Pfizer & Co., Inc.
Schering Corporation
Wilckes-Martin-Wilckes Co.

### MINERAL OIL

M. W. Parsons Imports
Schliemann Companies, Inc.

### SOAPS

J. L. Hopkins & Co.
John Powell & Co., Inc.

### VANILLIN

Euro American Corporation
Fritzsche Bros., Inc.
Givaudan Delawanna Inc.
Monsanto Chemical Works

## CONTAINERS

### BOTTLES

Carr-Lowrey Glass Co.
Owens-Illinois Glass Co.

### BOXES (Corrugated)

Container Corp. of America
Hinde & Dauch Paper Co.

### CANS

American Can Co.

### COLLAPSIBLE TUBES

Aluminum Co. of America
Bond Mfg. Corporation
New England Collapsible Tube Co.
Sun Tube Corp.
White Metal Mfg. Co.
A. H. Wirz, Inc.

## CLOSURES

### CORKS

Armstrong Cork Co.

### INSIDE THREAD CAPS

Spring Stopper Co.

### LINERS

Bond Mfg. Corp.
General Felt Products, Inc.

### METAL CAPS

Aluminum Co. of America
Anchor Cap & Closure Corp.
Crown Cork & Seal Co.
Ferd. Gutmann & Co.
Phoenix Hermetic Co.
Williams Sealing Corp.

### PLASTIC CAPS

General Plastics, Inc.

## MACHINERY & EQUIPMENT

### FILLING MACHINES

Alsop Engineering Co.
Arthur Colton Co.
Horix Manufacturing Co.
The Karl Kiefer Machine Co.
F. J. Stokes Machine Co.

### MIXING EQUIPMENT

Alsop Engineering Co.
Arthur Colton Co.
Mixing Equipment Co.
F. J. Stokes Machine Co.

### PACKING & CARTONING

Package Machinery Co.

### LABELLING EQUIPMENT

Economic Machinery Co.

### PHARMACEUTICAL MACHINERY

Arthur Colton Co.
F. J. Stokes Machine Co.

D&O
ESTABLISHED IN 1798

# ESSENTIAL OILS
## and Kindred Products

## QUALITY PRODUCTS
### BEARING THE STAMP OF
### RELIABILITY

**Oil Sweet Almonds Expressed USP**
(*finest quality*)

**Oil Geranium Bourbon**
**Oil Geranium Algerian**
**We are prepared to supply your needs advantageously**

**Oil Peppermint Redistilled USP**

**Oil Peppermint Multiple Rectified**
(*the finest Oil Peppermint*)

**Oil Ginger** (*very superior quality*)

**Oil Copaiba USP**

**Oleo Resin Ginger**

**Oleo Resin Capsicum**

**DODGE AND OLCOTT COMPANY**
**87 Fulton Street New York City**
*"The integrity of the house is reflected in the quality of its products."*

"See American First"

ALASKA, *purchased from Russia for only $7,000,000, was little in the public consciousness until 1898, when gold was discovered in the Klondike Then followed the famous gold rush of '98, the participants in which underwent terrific hardship. Now, the government-built Alaska Railway from Seward to Fairbanks will help to develop the other riches of Alaska —millions of acres of fertile agricultural lands, extensive mineral resources, vast areas of reserved forests for the manufacture of paper and pulp, and the regulated and conserved fishing industry*

## *Odorless, Colorless, "EVERCLEAR" Alcohol*

**Purity is paramount in "Everclear" Alcohol. That fact immediately establishes its utility and desirability for drug manufacture.**

**"Everclear" is descriptive of the remarkable clarity of this quality Alcohol. Also "Everclear" Alcohol is odorless. These features are ready evidence of purity.**

**"Everclear" Alcohol is produced in our grain belt plant by an exclusive process originated in our laboratories. You may specify "Everclear" with the foreknowledge that it meets the highest standards.**

SALES OFFICES AND WAREHOUSES
Baltimore, Md.
Birmingham, Ala.
Boston, Mass.
Buffalo, N. Y.
Chicago, Ill.
Cincinnati, Ohio
Cleveland, Ohio
Detroit, Mich.
Grand Rapids, Mich.
Gretna, La.
Indianapolis, Ind.
Kansas City, Mo.
Memphis, Tenn.
Minneapolis, Minn.
Nashville, Tenn.
New York, N. Y.
Omaha, Nebr.
Pekin, Ill.
Philadelphia, Pa.
Pittsburgh, Pa.
St. Louis, Mo.
St. Paul, Minn.
San Francisco, Cal.
Toledo, Ohio
Wichita, Kans.

ALCOHOL EVERCLEAR ALCOHOL
REG. U.S. PAT. OFF.

*Warehouse stocks carried at all principal consuming points*

*This is number 12 of a series depicting historical periods in the development of America*

**AMERICAN COMMERCIAL ALCOHOL CORPORATION**
420 Lexington Avenue, New York, N. Y.
*Plants:*
Pekin, Ill. Gretna, La. Philadelphia, Pa. Sausalito, Cal.

# SEALED AND RESEALED—
## —and every time it is
## SAFE WITH A CORK

A GOOD cork not only seals your product safely, when you first put it in place, but it goes on making tight sure seals every time the customer uses your product. Armstrong's Corks are the ideal reseal. Their lively springiness makes them as effective the last time they are used as the first. Even a child can reseal a bottle tightly with a good cork.

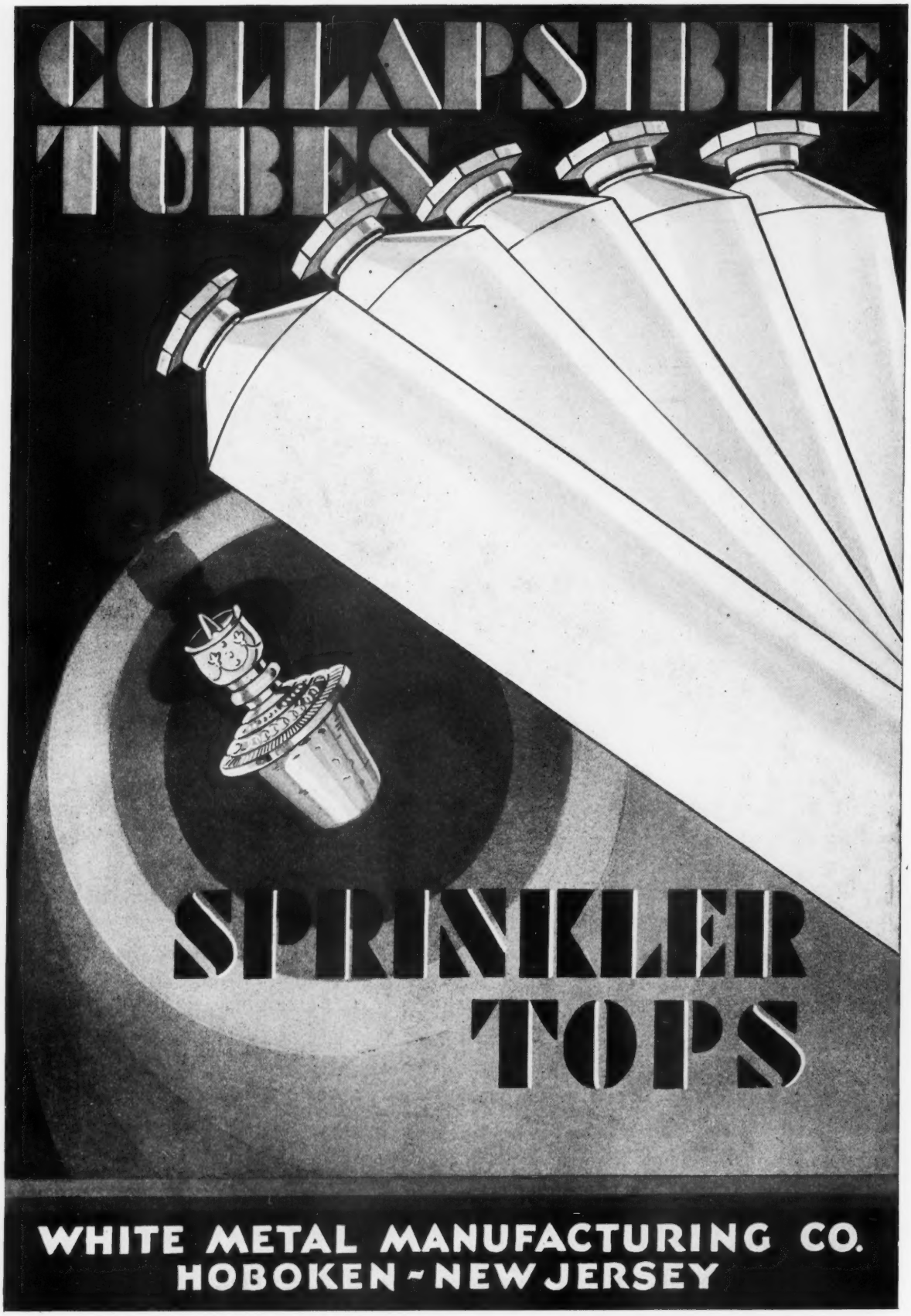
Corks *are* the safest, surest closures. They keep your bottles clean and the contents uncontaminated. Shelves won't become sticky; customers' hands and clothes won't be stained. And the purity of your product is safeguarded.

Corks are not only the safest closures but the easiest to use, too. Equally important, the cork-finished bottle has a lip that prevents those disagreeable pouring accidents.

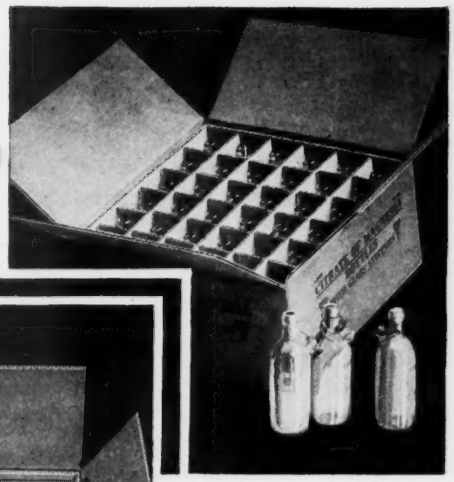
There are many other reasons for the superiority of corks as closures and equally as many for the superiority of Armstrong's over other corks. We suggest that you send to us for samples and prices. An examination of Armstrong's Corks, in any grade, will tell you the most convincing story possible. There's a background of 69 years' manufacturing experience behind them. Armstrong Cork Company, 913 Arch Street, Lancaster, Pennsylvania.

# *Armstrong's Corks*

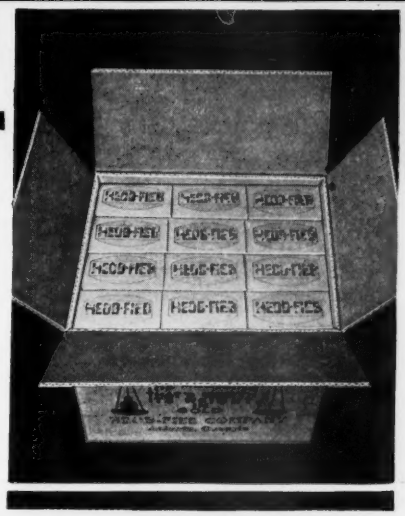
**A GRADE FOR EVERY NEED**
**--EVERY SACK GUARANTEED**


COLLAPSIBLE
TUBES
SPRINKLER
TOPS
WHITE METAL MANUFACTURING CO.
HOBOKEN ~ NEW JERSEY

# ARE YOU SURE YOUR PACKAGE IS RIGHT?



*Ample protection for each bottle of Citrate of Magnesia in this H & D Engineered Package*



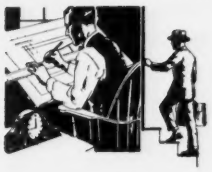
*Special H & D package with inner lining for shipping proprietary products*

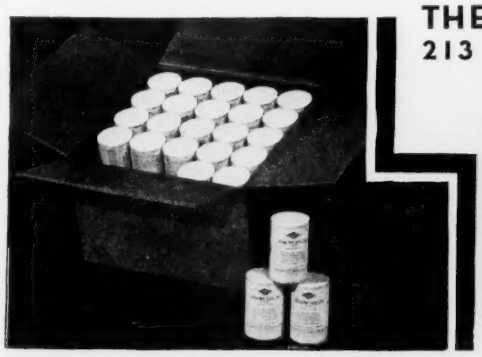
The right package is completely fitted to the particular needs of the product. It is never a makeshift nor an adaptation. It is specially designed to meet to the last detail the requirements, problems and hazards of present-day shipping conditions. Also it must represent true economy, both in its initial cost and in its expense of handling.

Such a package can be designed only by an expert designer, trained and experienced in handling packaging problems. 50 such Package Engineers are on the H & D staff. Their counsel and service saves shippers thousands of dollars annually.

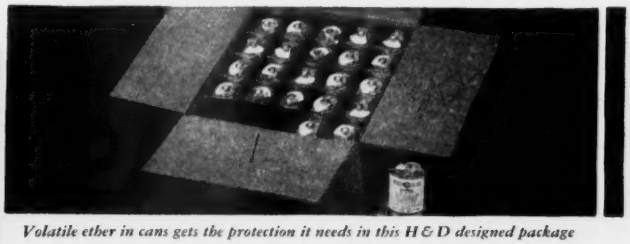
A check-up on your packaging system may save you money. At least it will cost you nothing to have an H & D Package Engineer analyze your packaging problem. You owe it to your business to make sure that your packaging system is right. Now, in the quiet season, is the time for this. Mail the coupon below for a copy of the latest H & D booklet on scientific packaging in your industry.

**SEND FOR THE PACKAGE ENGINEER**





*These round packages of Epsom Salts fit snugly in this H & D Engineered Package*



*Volatile ether in cans gets the protection it needs in this H & D designed package*

**THE HINDE & DAUCH PAPER COMPANY**
**213 DECATUR STREET, SANDUSKY, OHIO**
Canadian Address: King's Street Subway and Hanna Ave., Toronto

## HINDE & DAUCH *corrugated fibre* SHIPPING BOXES

THE HINDE & DAUCH PAPER COMPANY
213 Decatur Street, Sandusky, Ohio
Please send a copy of "Engineered Packages in Drug, Chemical, Cosmetic and Proprietary Industries" to

Name .....

Address .....

Town .....

We are interested in packing .....

# Drug and Chemical Guide-Book

## 1930 (eighth) edition

## READY THIS MONTH

Recognized as the standard buying guide for the purchaser of chemicals, drugs, dyestuffs, containers, etc. In addition, however, it has many other practical uses for the industrial buyer.

**RESERVE YOURS, BY FILLING OUT THIS COUPON**
**$1.00 PER COPY, POSTPAID**

HAYNES PUBLICATIONS, INC.
25 SPRUCE ST., N. Y. C.

Enclosed find $....., for which please send me .....cop at $1.00 each of the 1930 DRUG & CHEMICAL GUIDE-BOOK to be shipped postpaid as soon as it is off the press.

Name.....

Address.....

# LINERS for Metal Closures

WHAT a wealth of opportunity for new products and new merchandising plans, are expressed in the phrase "SEE WHAT YOU BUY, BUY IN GLASS".

There is a certain pride in a product, which you instinctively feel, when you see it packaged in glass. Because nothing is hidden; quality, uniformity and fair measure are there for all to see.

The genius, which finds expression in automatic machinery, has made it possible for the glass bottle to carry products for health and comfort into every American home. It has made possible, also, the economy and efficiency of the metal seal, so essential to the general use of the glass container.

Today, the manufacturer who uses glass or who contemplates packing in glass has a fund of experience and exact knowledge at his disposal.

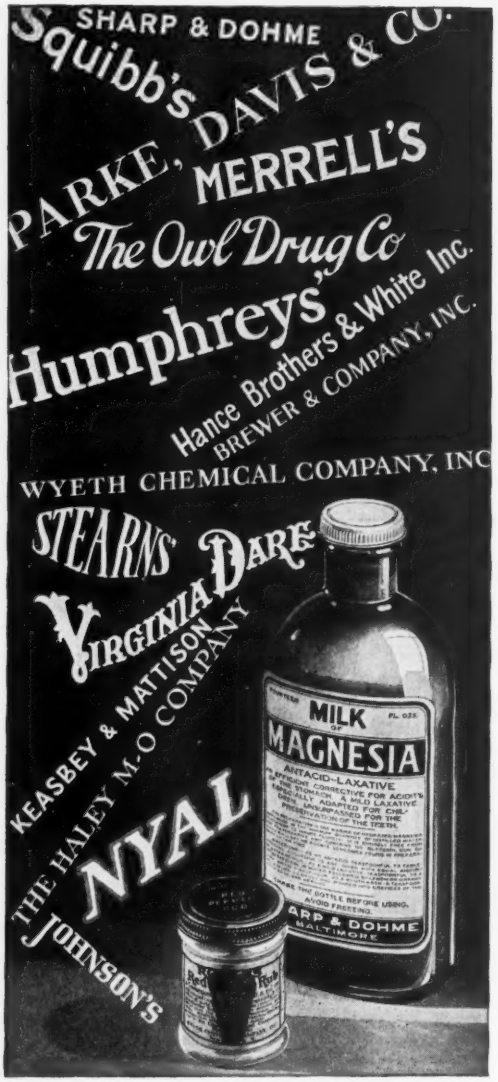
Whether his problem concerns the glass container, securing a seal under unusual conditions, or selecting the proper liner to seal his particular product, in the laboratories of glass or seal manufacturer, he is sure to find his answer.

## *We Believe*

¶ Everyone connected with the packaging of any product in glass will find it well worth their while to read the stories the General Felt Products Company has prepared. This is the first of a series of advertisements that will appear in this Journal.

## General Felt Products Inc.

*BUSH TERMINAL - - - BROOKLYN, N.Y.*



During 1930—19,250,000 advertisements in "The Saturday Evening Post" and "The Ladies' Home Journal" will increase the already great demand for products packed in glass under Anchor Amerseal Caps. Look for our advertisements in "The Saturday Evening Post" and "The Ladies' Home Journal".

# Guarantee Purity and Convenience with the . . . Anchor Amerseal Cap

The most conscientious manufacturers of pharmaceuticals — concerns that are recognized as leaders by the medical profession and by the trade — observe all possible precautions in sealing their products. They know how important it is that medicines should reach the public full-strength, without loss by evaporation—pure, without change of any kind. It is for all of these reasons that they select the Amerseal Cap. Because there are no threads to freeze or cement to the container, these modern closures are very easy to remove and yet can be depended upon to remain secure in shipping. Another important point about Amerseal Caps is this: because they are so speedily applied in the factory—three or four times as fast as other types of closures—they add nothing to package cost. Their display value too, is outstanding. Lithographed with your own design and colors, Anchor Amerseal Caps add to the attention value of your packages. Full details concerning Anchor Amerseal Caps will prove interesting to any manufacturer packing in bottles or jars . . . To secure complete information fill in and mail the coupon.

A quarter turn to the right applies the Anchor Amerseal Cap. Lugs, formed to fit the contour of the glass threads, draw the cap down and effect a tight uniform contact *around the complete top edge of the container finish.*

MANUFACTURERS: To secure full information about Anchor Amerseal Caps fill in and mail coupon!

Send detailed advantages of using Anchor Amerseal Caps on our packages.

Name_____

Address_____

_____

We Manufacture_____

and put out about_____packages per year. Under separate cover we are sending empty samples of our packages.

## Anchor Cap & Closure Corporation

LONG ISLAND CITY, NEW YORK • TORONTO, CANADA

# *ANNOUNCING*

## *A NEW SERIES OF*

# *ADVERTISEMENTS*

An early issue of this and other trade publications will carry the first of a series of informative and constructive advertisements, featuring the importance of Alcohol in Science and Industry.

This series of advertisements is the result of extensive research into the by-paths of the history of Scientific and Industrial development, portraying the important work of our chemists and our service wherever Alcohol is used.

**U. S. Industrial Alcohol Co.** **U. S. Industrial Chemical Co., Inc.**

110 EAST 42nd STREET
NEW YORK

# SCIENTIFIC ACCURACY
## *A safeguard of satisfaction*

GAUGE TESTED
THEY FIT

THE famous research laboratories that this company maintains are known the world over for the work they have accomplished in aiding industry to overcome bottling and sealing troubles. They represent one of the most complete and extensive individual undertakings in the field of industrial research—they have given constructive assistance representing savings of millions of dollars in the bottling and sealing of a vast line of products ranging from soft drinks to chemicals.

CROWN SCREW CAPS

The perfecting of special liners to meet the particular condition of every product is a feature of the work of these laboratories which has made the Crown Screw Cap the most satisfactory, safe and efficient that the Drug Manufacturer can use. The facilities of these laboratories are available to you at any time they can be of help in your operation. Call upon them for technical assistance. Write today for complete information regarding this better seal—*gauge tested for accuracy*—and a sales builder through its convenience and advertising features. Handsomely designed and beautifully lithographed, Crown Screw Caps are an asset on many of the country's largest glass packaged products.

Write today for samples and complete descriptive data.

**Crown Cork & Seal Co.**
**Baltimore · Maryland**
**Makers of the Crown**
(THE FAMOUS CLOSURE FOR WIDE MOUTH GLASS)

?

DO THESE
"SNOW CAP"
qualities interest you?

1 Color
2 Purity
3 Cleanliness
4 Uniformity
5 Physical Character
6 Freedom from Grit
7 Absorptive Properties
8 Binding Power

# A NEW BRAND—
# A NEW QUALITY

By means of modern facilities at our new plant, whatever type of material you may require or specify, we can furnish.

*Further particulars on request.*

SNOW CAP

# PRECIPITATED
# CHALK

Industrial Chemical Sales Co., *Inc.*

230 Park Avenue, New York City.

# The *Seal* of Approval . . .

THAT great multitude, figuratively referred to by sales manager and advertising man as "The Consuming Public," sits in judgment upon every product which it buys and uses.

It is quick to appreciate effectiveness of product and convenience of package . . . it is just as prompt in detecting lack of quality or convenience. And, it applies its seal of approval, or blue pencil of rejection, firmly and conclusively.

Progressive merchandisers of chemicals recognize this truism and prepare and package their products accordingly. For, herein lies acceptance or refusal . . . success or failure.

The Capitol Cap protects the purity, effectiveness and good appearance of a chemical, and it may be removed from the package with ease and facility. It is a *seal* for the glass package which has the hearty *approval* of "The Consuming Public."

THE PHOENIX CAPITOL CAP

PHOENIX-HERMETIC COMPANY
*Metal Caps for Glass Packages*
CHICAGO NEW YORK

*Offices:* New York, Philadelphia, Boston, Rochester, Chicago, San Francisco, Los Angeles, Cleveland, Cincinnati, St. Louis
*Plants:* 2444 W. 16th St., Chicago; 14th Ave. and 38th St., Brooklyn

# PHOENIX *Metal Caps*

# Your Customers know:

# There IS a Difference in Collapsible Tubes

SOME tube packages of extreme quality, fail in sales because the tubes in which they are sold belie the quality of the product itself.

Others fail in repeat business, not because of any fault of the product itself but because of inferior tubes which fail to preserve, protect and deliver *all* of the contents and otherwise make a nuisance of themselves.

For in this day when nearly everything is sold in tubes, your consumers know: There IS a Difference in Collapsible Tubes.

If you are interested in tubes which will build sales and create customers' goodwill, it will pay you to investigate New England Quality, if you are not already familiar with them.

***Samples and prices of plain or decorated tin or lead tubes will be furnished promptly on request.***

**NEW ENGLAND COLLAPSIBLE TUBE COMPANY**

*Plants at*

Dept. B-B-3 } 17-35 Waller Street, New London, Conn.
Dept. B-B-3 3132-34 South Canal Street, Chicago, Ill.
New York Office: Dept. B-B-3 52 Vanderbilt Avenue

# NEW ENGLAND COLLAPSIBLE TUBES

*Announcing*

# Fifth Annual Dinner

## DRUG and CHEMICAL SECTION

## New York Board of Trade

*Hotel Roosevelt*
MARCH 4th

Make reservations promptly to
W. F. McConnell, Secretary,
Drug and Chemical Section,
41 Park Row, New York, N. Y.
Telephone Cortland 3991.

This advertisement is contributed by the
Mallinckrodt Chemical Works
to sponsor an annual event in the
Drug and Chemical Industries

**MALLINCKRODT CHEMICAL WORKS**

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Drug Markets

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# *The Pharmacopoeia*

INSPIRED by a higher type of competition in the selling of drug products, science is moving at an astounding rate of speed. So swift are the discoveries which within a comparatively short time reveal the reasons for the efficacy of drugs used empirically for generations, that Pharmacopoeia standards have questionable lasting qualities. In the light of discoveries of the past few years, cod liver oil and ergot of rye stand as glaring examples of the meaninglessness of some of the U. S. P. specifications and tests.

YET, within a few months, the convention which is to produce the eleventh edition of the official work of this country will meet and determine standards that will hold for the next ten years. In this convention, pharmacy, medicine, and manufacturing all will be represented. There will be efforts to have standards adopted on various products that will work to particular advantage of certain individuals. Whether such standards are low or high, the eventual result in practically all controversial cases will be a compromise. And long before the ten-year period of the life of the standard has passed, proof will most likely be available that the compromise in itself was a mistake.

IT SEEMS unfortunate that the revision of this important work must bear aspects that remind one of tariff revision. It seems unfortunate that a matter so close to the welfare not only of the drug industry but also of the country itself should involve political and commercial squabbles which prevent scientific knowledge from being utilized to the fullest extent. Only by a proper appreciation of their duty to their professions can delegates to the convention perform the work of the convention in the manner in which this work is intended to be performed. Only by following the highest ideals can these delegates expect the Pharmacopoeia to stand the test of the ten years of scientific discoveries that lie ahead.

LET us hope that out of the coming convention will come a pharmacopoeia that will not be called the standard of permissable adulteration by so many essential houses; a pharmacopoeia that will give the Department of Agriculture an intelligent set of standards and tests for products that are in the same position as cod liver oil and ergot of rye. In short let us have a pharmacopoeia that will raise the standards of drug products, and that will also cause these products to be properly tested for the things that mean something.

**A Little Slow** Offering special inducements to the various large distributive organizations has disadvantages that, in the minds of many, outweigh the certain advantages that immediately accrue. The policy of giving additional discounts to the large chains or large groups of wholesalers based upon the quantity of goods sold during a given time is immediate in its upward effect upon the sales curve, especially when the discounts are greater than those given by any other manufacturer. But such a product must have sustained effort of this sort to keep it in front, and generally the problem of keeping the effort alive, in the face of attempts of manufacturers of new products to break into the market, is difficult indeed.

How much nicer it is never to have attempted this sort of thing and have every distributive agency know that your quoted price is your only price. With a product that has real consumer demand offers the proper line extension to the wholesaler, the respect of the distributing trade with regard to one price to all for the same quantities is much the wiser course. Increased discounts are nothing more than price cutting that causes competitors to cut still deeper and demoralize a market. A business showing a slow, but economically sound gain is much the wiser course.

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**Bluebird Merchandising** "Fertile are the minds of advertising men. I have learned of more new unexplored markets for my product; of more indirect approaches than be in the philosophy of a dozen manufacturers."

So writes a bewildered advertiser, confused beyond measure by the modernistic agency selling "the thing beyond."

But the business of getting business always has and always will possess large elements of drudgery. Under the stress of competition the old tried highways of business often seem cluttered with a hopeless traffic jam. New paths make progress, and business men cannot turn deaf ears thus killing the opportunity of opening these new paths.

But too many business men to-day, caught in the tempo of our times, are using advertising copy, advertising media, and sales methods so foreign to the plain logic of going straight to their buyers with a simple truthful statement of the usefulness of their goods, that in historical perspective their efforts will look ridiculous.

By all means sell "the thing beyond." But let common business sense restrain this thing from being too far beyond.

**Destructive Advertising** Anyone who has the best interest of the drug industry at heart must have read with regret the recent newspaper advertising of Colgate Dental Cream. This advertising, quoting in full the recent resolution of the First District Dental Society of New York, can have only one ultimate effect on public opinion.

Most difficult to see is the advantage that will accrue to Colgate as a result of the broadcasting of a resolution that is so destructive to public confidence in dentifrices. Because, for better or for worse, the future of Colgate's Dental Cream will always be part and parcel of the general demand for dentifrices—a demand directly proportional to the public belief that oral cleanliness can be attained by constant use of a tooth brush and a dentifrice.

In the past, Colgate advertising has always had an admirable spirit of restraint, fairness and dignity. If this spirit of aloofness from hard hitting claims of other dentifrice advertising—many of which may be open to criticism—will not stand the stress of modern competition, surely the cure cannot be found in repeating general accusations which discredit with the public the entire industry.

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**Testimonials Killed** The agreement reached by the Federal Trade Commission and a manufacturer of cigarettes with regard to the manner in which this cigarette manufacturer shall conduct its advertising campaign is deeply significant of the action that might be expected by the Commission when drug manufacturers go too far astray from the truth in making their claims. Most indicative of what the drug trade may expect at the hands of the Commission is the order that testimonials used in advertising copy must state the fact that the testimonials were bought and paid for when such is the case.

No sane merchandiser of drug products will regard testimonials in any other light than the most effective type of advertising copy. But the manner in which testimonials have been obtained and exploited has caused most of the reputable manufacturers to refrain entirely from using them lest they be classed with the lower type of manufacturer who is still using testimonials that have no other basis for existence other than the amount of money paid for them.

**At It Again** Resolutions regarding the U. S. P. passed last month by the New Jersey Pharmaceutical Association are of more than ordinary interest to manufacturers. The idea behind the attempt to have either the pharmacopoeia reduced to a book of simple standards at the same time relegating all preparations to the National Formulary is the same as that of the counter resolution to have the Pharmacopoeia divided into two sections, one including only the active therapeutic agents.

If the pharmacists can either get the commonly sold drug preparations placed in the N. F., or if they can get these preparations into a separate section of the Pharmacopoeia, they might be able, through legislation, to control the sale of these products. For when they are faced with the argument that the Pharmacopoeia contains such commonly used products as pepper, salt and sugar, they are quite unable to restrict the sale of U. S. P. items to drug stores. With a separate section of active therapeutic agents, or with the N. F. containing these agents, they could properly restrict their demand of exclusiveness to either the proper section of the U. S. P. or to the N. F.

It can, therefore, be seen that this proposal is the old fight of the independents against the chains through legislation dressed up in a new garb. We do not imagine it will get very far.

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## Ten Years Ago

**From our pages February, 1920**

The Federal Trade Commission has issued a complaint against Colgate & Co., charging unfair methods of competition on account of their price maintenance policy. This has come to be known as the "Colgate plan" and has been adopted by other manufacturers to meet the evils of price cutting.

The Mennen Co., Newark, N. J., has purchased property at Dickerson and First sts. for proposed future expansion. William G. Mennen is president.

The Bayer Co. plant near Albany, N. Y., now owned by Sterling Products, Inc., is to be enlarged. Plans have been approved for new buildings on the meadows south of the present works, and a New York Central railroad spur has been laid into the property.

Col. L. G. Nutt, formerly of New York, and more recently in charge of the Federal Narcotic Bureau in Chicago, has been promoted to the office of chief of the Narcotic Division of the Internal Revenue Department, Washington, D. C.

## Dear Drug Markets:-

Now that football and baseball are out of season, I was glad to see Earl Means and Lee Bristol come to the rescue of the boys and provide a real indoor sport. They started the great Ingram Battle in real style, and if their organizations work out as well, a violent war is anticipated with neutrals shaving twice each day to avoid casualties.

Returns should be posted in conspicuous place in the City. For the sake of the trade bulletin boards in the Old Beekman, Van Axen's and other favorite conference halls would be a great convenience.

When the battle gets hot, Lee and Earl ought to be able to take time out to lead cheers for their respective teams. I have heard that the glass peddlers are already plotting to win and have adopted a cheer which goes:

Rah rah rah
Take a jar
Take a jar
Rah rah rah.

But talking of selling, West, M. D., slipped a fast one over on yours truly. Here I've been dispensing tooth paste to reluctant retailers ever since I had my first cavity, and one night I came home to find my young hopeful all pepped up over a little toy figure with a brush and tube of West's. What made me so very happy was my wife had dropped my profit on two dozen to pick it up.

I see by your paper that McK & R. are up for restraint of trade. Those Washington babies picked the wrong firm. They ought to send a wire and a delegation to investigate the firm I work for. Last December G. H. Q. via the District Sargeant, hands me my quota for 1930. Three increases, no decreases, and a cut in territory. Boy, they certainly are making me hop not to let them get me for restrained trade.

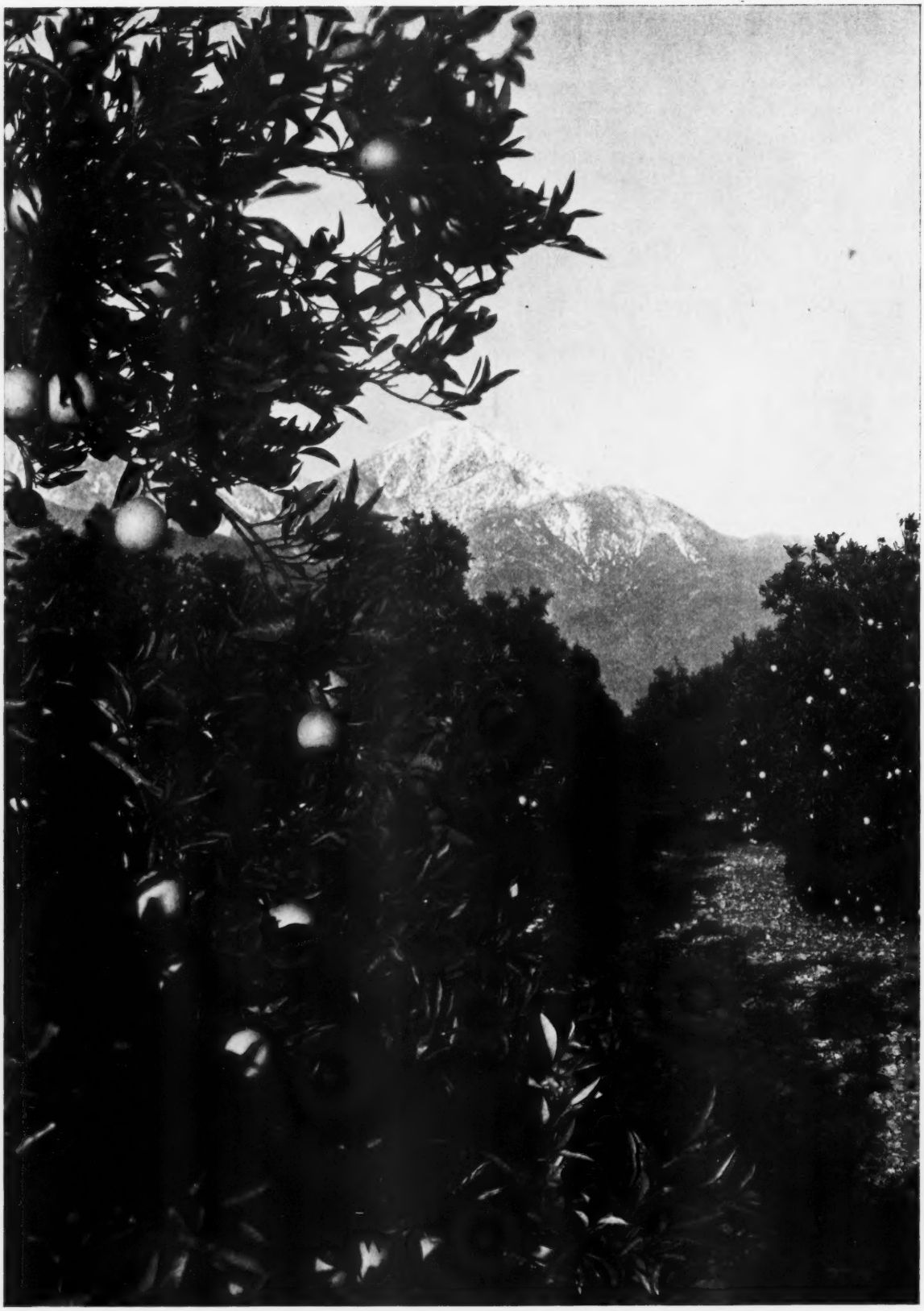
Since starting this letter, some other peddlers and myself had an argument over the Listerine ad which shows a director standing up with a glass and a bottle of Listerine. The heading reads: "Pardon me, Gentlemen."

One of the fellows claimed the idea was to show that if a fellow could gargle in a directors' meeting, he could gargle anywhere. The advertising agency handling his company's stuff would call it "making the public gargle conscious," and the idea is the four hundred do it, why not you ?

My buddy figures the sales manager's report has just been read asking for some raises. Presidents always gargle at time like this, so Listerine is just trying to get in soft by showing them how to cover up.

I didn't say anything, but what I've been figuring is this. Supposing I get a letter telling me to come right into the home office and something makes me feel that the object is *not* promotion. I could pick

*(Continued on page 148)*



Where American Orange Oil comes from

*Courtesy California Fruit Growers' Exchange*

# Cod Liver Oil in the Pharmacopoeia

**Revision of the standards and tests for cod liver oil are admittedly necessary. Manufacturers give their opinions as to what these should be.**

PERHAPS no article in the Pharmacopoeia will attract more attention in the forthcoming revision than that of cod liver oil. Discoveries since the last revision have been particularly startling, and the standards and tests of the Tenth Revision of the official work are quite meaningless. In fact a member of the Revision Committee, who desires that his name not be mentioned, states as much in the following statement:

"The majority of those who have used the present U. S. P. method for determining the vitamin A content of cod liver oil feel that the method is essentially satisfactory, but requires modification in some particulars. U. S. P. X, however, contains no method for determining the vitamin D content of cod liver oil, but there will surely be included in U. S. P. XI a method for this.

### Some Modifications Necessary

"While, I am not prepared at this time to make a definite statement as to the most advisable procedure for the performance of either of these tests, I am inclined to believe that the present U. S. P. method for Vitamin A, with some modifications, will be agreed upon, and the procedure or some slight modification thereof adopted by the Wisconsin Alumni Research Foundation for the control of Irradiated Ergosterol preparations will be the basis for the Vitamin D test.

"Concerning the color test for Vitamin A, I doubt very much whether it will be considered advisable to include such a test in U. S. P. XI. There are so many factors affecting the reliability of the color test for Vitamin A, particularly for comparing oils from different sources, that it seems doubtful whether it should become a standard U. S. P. procedure."

Naturally this representative of the drug manufacturing trade — since he was connected with the formation of the Tenth Revision—merely indicates that "modification in some particulars" is all that is necessary. However, other manufacturers are not so mild in their criticism of the present standards, although they differ somewhat among themselves as to what is proper.

C. Nielsen, of the Pharmacologic Department of Abbott Laboratories, presents some very interesting remarks in the following statement:

"The chemical standards and tests for identity and purity in the Xth Revision probably require little, if any, revision.

"But, since it is generally agreed that the value of medicinal cod liver oil rests with its content of vitamines A and D, we hope that the XIth Revision will require bioassays for standardizing the potency of both of these vitamines. At present, there is no colorimetric test sufficiently reliable for the quantitative estimation of these vitamin potencies. The generally accepted bioassay methods for A and D give more accurate results than any other tests. Although these methods are complicated, expensive and time-consuming, they are the only ones which guarantee a product of definite standards within reasonable limits.

### Vitamin A Potency

"*Vitamin A Potency.* It is generally agreed that 50 units per gram is altogether too low. The suggestion has come to us from various independent sources that the XIth Revision of the U. S. P. should require 250 vitamin A units per gram. This may or may not be a conservative figure for the purpose. It has been our experience that medicinal cod liver oil containing 500 units of vitamin A per gram is quite easily obtainable.

"Regarding the bioassay method for "A", there is room for improvements in the method as it stands in the Xth Revision. Some independent organizations have undertaken investigations to establish better methods for assaying vitamines A and D. Among them, the American Drug Manufacturers' Association has appointed a committee with whom we have the pleasure of co-operating. The vitamin A free diet proposed by this committee has, in our hands, proven to be a decided improvement over the one in the Xth Revision. We believe that the rats should be fed this vitamin A free diet until xerophthalmia symptoms are distinct which generally, but not always, takes place after a period of stationary

or declining weight for at least seven days. If possible, the test period should be shortened. The technic of the method should be given in greater details; and in order to provide for standard animals of uniform resistance, a more complete breeder's diet should be substituted for the one now prescribed.

### Vitamin D Suggestions

"*Vitamin D Potency.* The method should be one based upon the so-called Line Test which determines the potency of cod liver oil to heal severe rickets produced in young rats by feeding a Vitamin D Free Diet over a certain period of time. Dr. Harry Steenbock of the University of Wisconsin has worked out a technic for such a method and describes it in an Appendix to the license issued to pharmaceutical manufacturers for the manufacture and sale of Viosterol; also, the A. D. M. A. Committee is investigating a similar procedure. In the matter of ricket's producing diet, it makes little difference whether Steenbock's No. 2965 or McCollum's No. 3143 is chosen, although we believe we have had some indications to the effect that Steenbock's diet produces a somewhat more uniform degree of rickets while McCollum's may, at times, produce excessive rickets. Here, as well as in the vitamin A test, we think the U. S. P. should specify a stock diet to be fed to the mother while bearing and nursing the young, and the young, themselves, from the time they are weaned to the time they are put on the vitamin deficient diet. We do not venture to suggest a definite standard vitamin D unit for cod liver oil although it appears to us that 100 units per gram would be fair, the unit to be computed in the same manner as the one for vitamin A, namely by dividing 1,000 by the determined minimum average daily corrective dose in milligrams of oil. Dr. Steenbock considers a cod liver oil of standard vitamin D potency if 75 milligrams fed over a total period of ten days heals the rickets; in other words, and average daily dose of 7½ milligrams. This computed into units by the generally accepted method would make 133 vitamin D units per gram.

### A. D. M. A. Will Suggest

"I understand that it is the intention of the A. D. M. A. Committee to suggest several important improvements in the bioassay of cod liver oil to the Pharmacopoeia Committee if the result of their work proves to be of value."

Treating the question of revision in a slightly different manner, and also suggesting a higher requirement for vitamin A potency, another leading producer of a vitamin D fortified oil says:

"Without a doubt many necessary revisions should be made in the present standards, particularly, with respect to the evaluation of the vitamin content of cod liver oil.

"The present standard for vitamin A, as given in the U. S. P. X, is of course notoriously low and consequently useless as a standard for a medicinal oil. Most of the oils with which we are familiar contain from eight to ten times the minimum U. S. P. requirement of 50 units per gram of vitamin A. It is our opinion that the present standard of 50 units per gram should be increased in somewhat this proportion and that a minimum value in the neighborhood of 350 units per gram would be a much more reasonable standard for vitamin A.

### Modification of Diet

"The present breeders' diet of whole wheat, whole milk and salt is incomplete. Rats do not breed successfully on this diet and the vitality and growth of the young are unsatisfactory, which facts become very evident when the young rats are placed on the more vigorous vitamin A Free Diet. In our opinion, revision of the above diet is of prime importance in the determination of standard methods of assay. We have used a modification of the above diet consisting of

| | |
|---|---|
| Whole wheat | 55% |
| Whole milk | 25% |
| Dried mead residue | 12% |
| Dried Yeast | 5% |
| $CaCO_3$ | 1% |
| NaCl | 2% |

with an occasional addition of a green leafy vegetable, usually lettuce. This diet has the virtue of simplicity and ease of preparation and in general gives very satisfactory animals which grow well and have good vitality.

### Should Change Vitamin A Diet

"The vitamin A free diet at present in the U. S. P. X should also be changed. The present diet makes no allowance for the vitamin D requirements of the test animals, consequently growth of the animal on the vitamin A free diet during the depletion period is less than it should be and when cod liver oil is then added as a supplement to determine its content of vitamin A the response in growth is due to both vitamins A and D, with the result that the vitamin A content is erroneous. For the duration of the vitamin A assay the animal should be supplied with vitamin D preferably in the form of irradiated ergosterol. That is, vitamin D should be added as a supplement to the A free diet during the depletion and test periods in an amount sufficiently large so that the test animal will suffer no retardation in growth due to lack of vitamin D. This adds considerably to the accuracy of the assay, both by discounting the vitamin D necessarily fed when cod liver oil is being tested, and by making the period at which the vitamin A reserves

of the animal have been exhausted much more sharply defined.

"In regard to the vitamin D content of cod liver oil we are entirely in accord with the standards of the Wisconsin Alumni Research Foundation both as regards methods of testing and the definition of a standard cod liver oil. The Wisconsin group have adopted 7.5 mgs. as the minimum daily dose of cod liver oil to produce a definite line test in ten days on standard rachitic rats; that is, rats which have been bred on a proper diet and then fed the Steenbock rachitic diet for 21 days. We think that both the standards and methods of assay as proposed by the Wisconsin Alumni Research Foundation are entirely satisfactory.

"While our experience with the colorimetric test for vitamin A has not been large, we do not consider this method of sufficient accuracy or specificity to merit any considerable position in the evaluation of the vitamin A content of cod liver oil."

Dr. J. P. Snyder, Norwich Pharmical Company, is of the opinion that present standards are too low:

"It has been our experience that the present standards for cod liver oil as given in the tenth edition of the pharmacopoeia are extremely low. We say this without any particular criticism of the pharmacopoeia, believing that the attempts to place it in the tenth edition were with the idea of having a further study made upon the subject.

"Improved conditions of manufacture have unquestionably brought forth a higher grade of oil containing larger percentage of the vitamins. We believe that the minimum standard of the pharmacopoeia for vitamin A can be placed at about ten times the present requirement.

"We do not believe at the present time that the colorimeter test for vitamin A has been perfected to such an extent that it is entirely satisfactory. Perhaps with additional work, which we know is being conducted by leading vitamin authorities, this may be possibly rounded into shape so it may be given serious consideration by the forthcoming pharmacopoeia revision committee.

Dr. Charles E. Bills, Mead, Johnson & Company, has no new observations to offer beyond those published in February, 1927, in which he said:

"A great many tests, based on physical and chemical properties, have been proposed for the identification of medicinal cod liver oil and the detection of adulteration, but almost every one of these is, by itself, liable to misinterpretation. The following tests are, in my opinion, the most practical.

1. The oil should be golden to pale yellow in color, and possess an inoffensive, fishy smell.

Fish body-oils, and rotted cod oil, unless bleached and deodorized, usually have a dark color and strong smell. Vegetable oils lack the fishy odor. Blubber oils, foreign liver oils, and bleached oils may escape this test.

2. If to a few cubic centimeters of genuine cod liver oil in a test tube, a similar quantity of the test-sample at the same temperature be added, and partially mixed, no well-defined diffusion striae should appear.

In this test, originated by Merz (1876), for recognizing the purity of any oil, diffusion striae must be distinguished from color striae. Rotted cod oil cannot always be distinguished from steamed, but extensive adulteration by almost any foreign oil is fairly well revealed. Diverse samples of pure cod liver oil produce only feeble striae on mixing.

3. The Hager-Salkowski color reaction, performed in accordance with the U. S. P. X should be positive, as described.

Consideration of the work of Liverseege (1904), Thaysen (1914), Bohrisch (1918), De Kadt (1920), Poulsson and Weidemann (1923), and Holmes (1924) leads to the conclusion that this long-known reaction may be given by several fish liver oils, and that occasionally cod liver oil fails to give it. However, there is good evidence that such abnormal cod liver oil must have been exposed to conditions of oxidation, insolation, bleaching, etc., which are likely to be detrimental to the vitamins. This test, therefore, is of value principally as a means of determining that the oil has not been improperly treated.

"These tests afford no information on the vitamin potency of a cod liver oil. To gain such information, methods of biological assay have been devised which consist in determining the minimum of oil sufficient to cure or prevent certain avitaminoses. The U. S. P. X describes a procedure, based on the growth-resumption method of Zilva and Miura (1921), for the assay of vitamin A. The official standard is low and meaningless. For the cure of xerophthalmia a larger dose of oil appears to be required than for the resumption of growth. For the assay of cod liver oil for vitamin D the most satisfactory procedure appears to consist in determining the percentage of oil which must be incorporated in a rickets-producing diet to render it curative of rickets. When a large number of assays are performed the vitamin D potency of medicinal oils may be found to vary six or eight times, while the variation in vitamin A may be considerably greater.

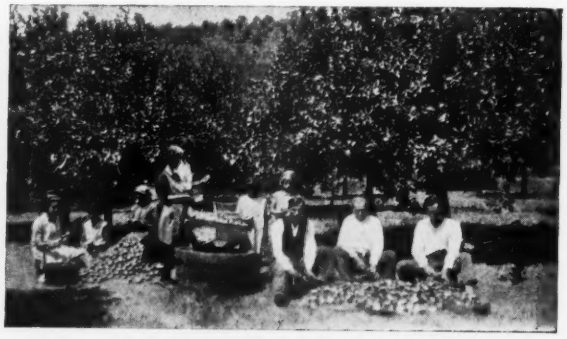
"Several attempts have been made to estimate these vitamins, particularly vitamin A, by color reactions. The work of Drummond and Watson (1922), Poulsson and Weidemann (1923), Sjorslev (1924), Rosenheim and Drummond (1925), Fearon (1925), Carr and Price (1926), Willimott and Moore (1926), and Rosenheim and Webster (1926) indicates that cod liver oil contains a chromogenic substance which is associated, but not necessarily identical, with vitamin A. Cocking and Price (1926) compare the several reactions, and conclude that the color developed by antimony trichloride affords the most promising results. However, it is true that the value of all the color reactions proposed for the estimation of vitamins is at present highly problematical. Color reactions for vitamin C have not as yet been developed even to the point of extensive parallelism between the tests themselves and the biological findings."

## The Fritzsche Pictures

The following views of production of essential oils in various parts of Europe were taken by Dr. Earnest S. Guenther, of Fritzsche Brothers, who entertained about 150 perfumers at the New York Athletic Club by the showing of very remarkable motion pictures taken by him during the past year.

The reels of pictures showed in detail the production of citrus oils in Italy and Spain; production of otto of rose in Bulgaria; lavender production in Southern France; natural flower oils of Grasse; and production of oils in the Sahara Desert, near Cairo, Egypt.

Migratory Lavender Still



Expressing Lemon Oil in Italy

Bulgarian Rose Co-operative

## Citric Acid

The following two reactions are useful in identifying this substance. A solution of about one milligram of mercuric sulphate is heated on an object glass and one drop of a solution of potassium permanganate, about tenth normal is added. A white precipitate is rapidly formed.

About one milligram of citric acid is dissolved in a drop of a tenth normal solution of iodine. One drop of a thirty per cent. concentrated solution of acetic acid is added and after the mixture is slightly heated, a drop of a solution of potassium permanganate, about tenth normal, is added. A white precipitate of pentaiodoacetone is immediately formed.

To test for tartaric acid, a small particle of potassium acetate is dissolved in a drop of water on the object glass and then several centigrams of citric acid are added. If tartairc acid is present, crystals of acid potassium tartrate are rapidly formed. In this manner it is easy to detect one part of tartaric acid in one hundred parts of citric acid. Citric acid, which has been adulterated by tartaric acid, always contains a larger quantity of the latter acid than one part in one hundred. In such cases less of the citric acid need be taken in order to make the experiment. It must be noted here that precipitation of tartaric acid with calcium acetate is not possible even with a mixture of ten parts by weight of tartaric acid and ninety parts by weight of citric acid. L. Rosenthaler, Pharm. Zeitung, 1929, number 81, pages 1306 ff.

## Stability of Simple Syrup

During the preparation of simple syrup, a small amount of invert sugar is formed due to the action of heat. This quantity increases slowly during the storage of the syrup. The presence of acids or of micro-organisms in the syrup favors the formation of invert sugar. Simple syrup, which does not contain invert sugar, can be obtained if it is prepared at a temperature of 90 degrees C. or at a lower temperature. W. J. Beardsley and F. J. Bolton, Pharm. Journal, 1929, no. 3426.

## Experatol

This is the name given to an antiseptic concentrated essence which is used for the preparation of an aquesous solution for private use. The product contains saturated potash alum. It is a limpid liquid, brown in color and has a strong and penetrating odor of pine needles. The specific gravity of the liquid is 1.15. Its reaction is acid and it gives a clear solution with water. Analysis showed that it contained formaldehyde as well as the potassium, aluminum and sulphate ions. It also contains pine needle oil. W. Wegener, Pharm. Zeitung, 1929, number 65.

# Packing a Family

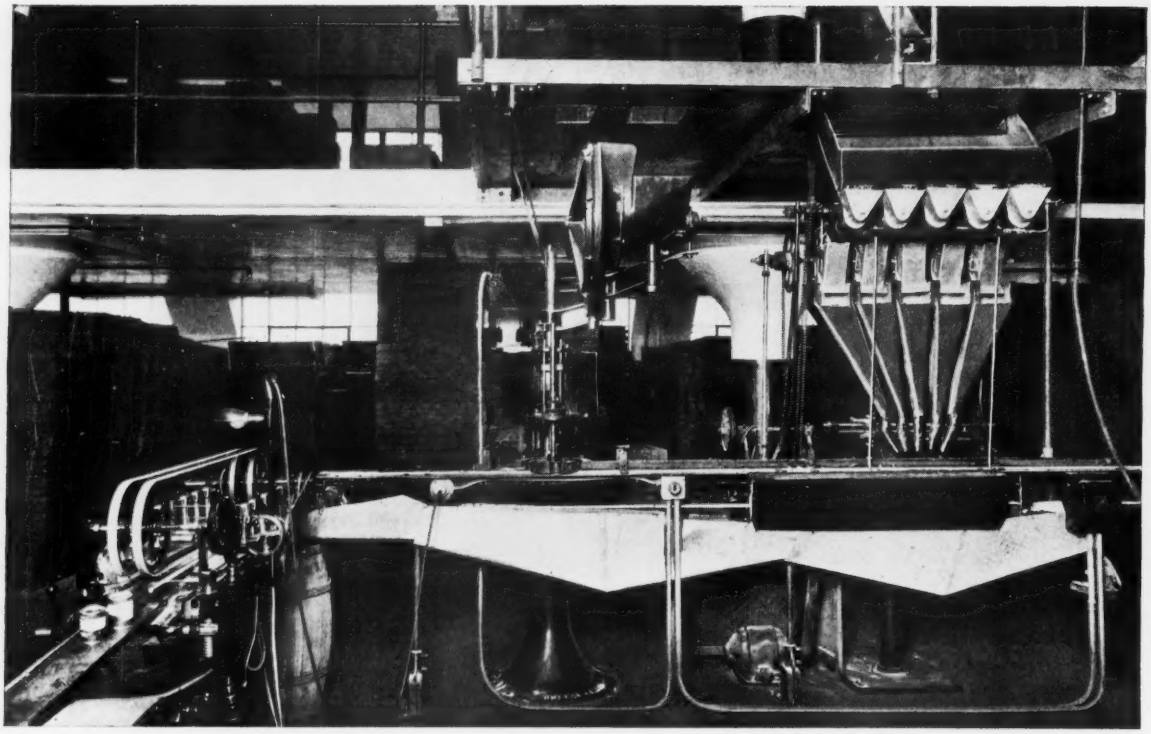
**Completely automatic line-ups are utilized to pack the McKesson & Robbins line of products which covers 65 liquid items of sizes from one ounce to 16 ounces, as well as 35 crystal and powder products. Three flexible line-ups are used for the wet line, one for the powders and one for the crystals.**

A member of the dry line

THE problem facing a drug manufacturer whose business is built around fair volume on quite a number of standard products packed in sizes that varying throughout the entire range is not generally thought to be subject to solution by the use of fully automatic machinery. Oftimes our leading manufacturers are willing only to use automatic machinery when one specialty reaches the point at which faster production is essential, and at which automatic machinery affords a real saving on almost uninterrupted production.

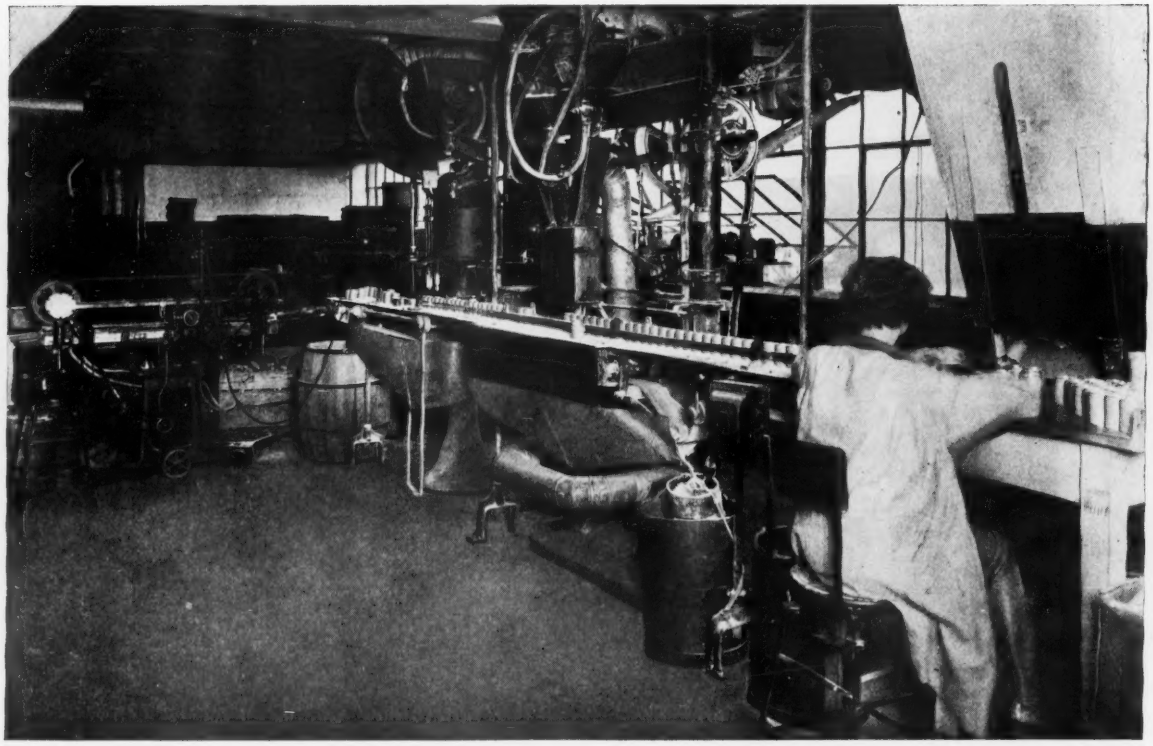
However, to-day the family of household products can be handled quite as effectively by automatic machinery as can single products. It is necessary to take time out to change either the product or the

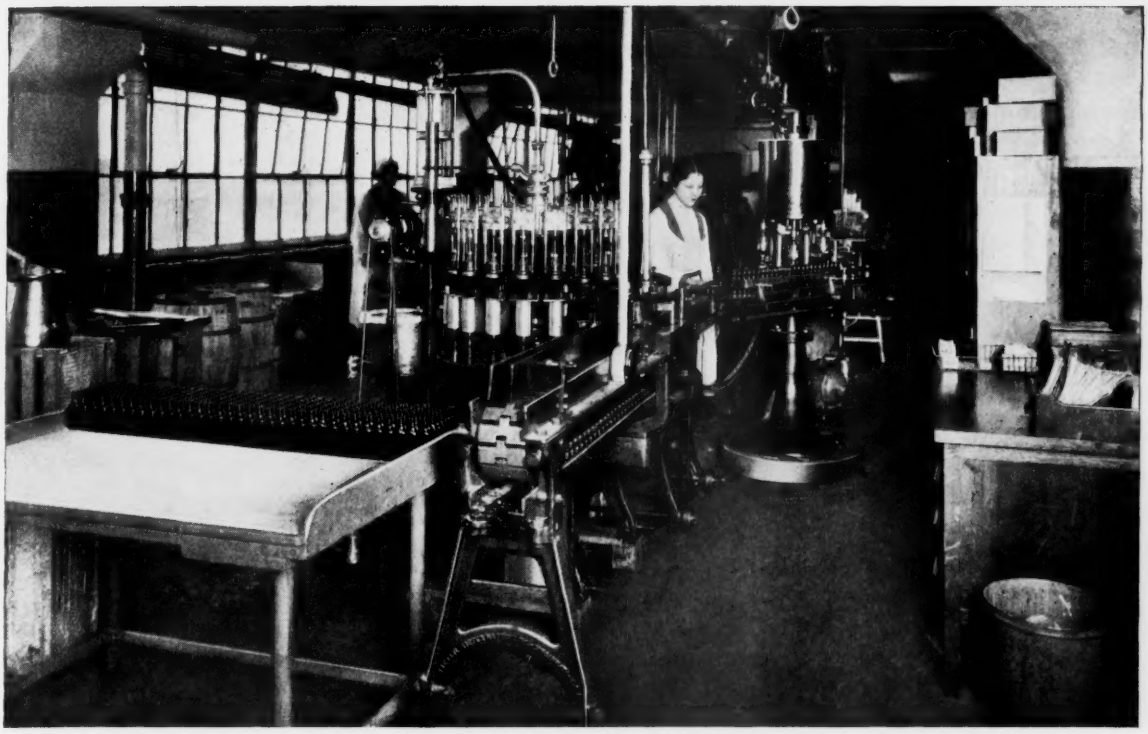
Four different sized members of the McKesson wet line



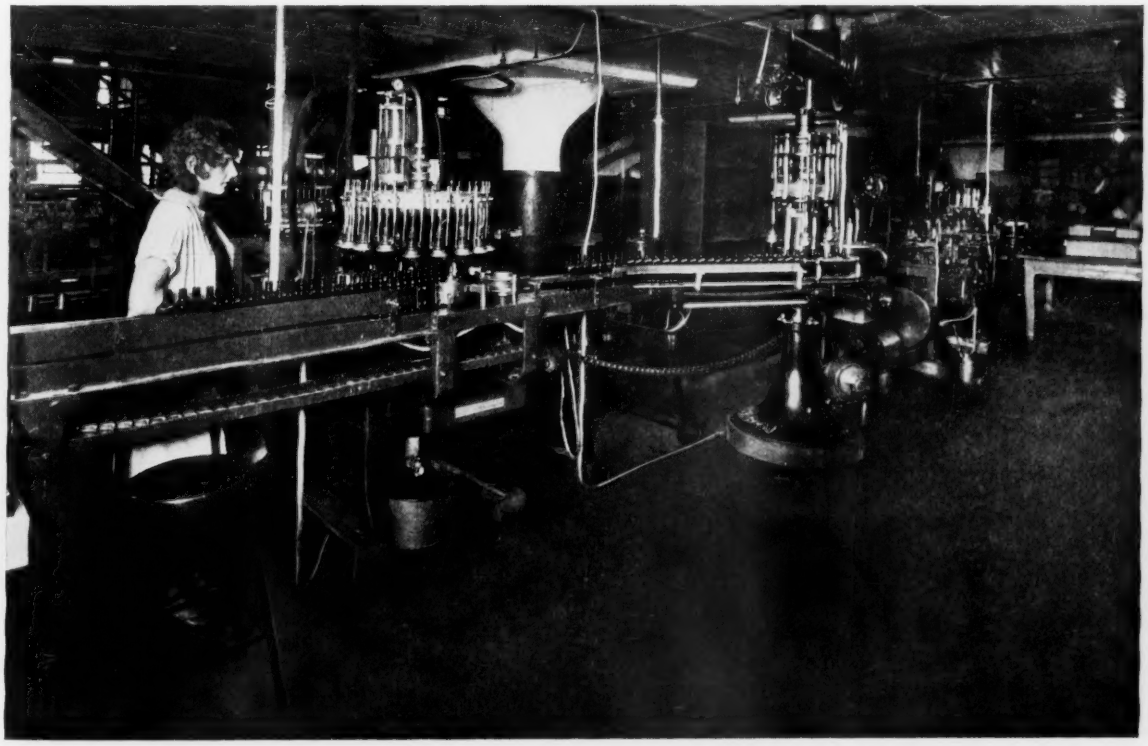
The five head filler for crystal products is shown above at the left. Following to the right is the capper, and as the corner is turned, the labeler. The sealer is not shown in the picture.

Below is shown a similar line-up for packing powders.





Two views of one of the three line-ups for packing the wet line. The bottles feed from the table to the rotary filling machine, thence at an angle to the labeling machine which is shown uncovered in the lower picture, thence to the cartoner which is visible only in the lower view. From this point the products pass to the automatic sealer of shipping containers.



size of the package that is being handled, but the rapidity of production, and the savings of labor and space are greatly enhanced by these methods, and the packing is much more uniform and effective than is possible with the introduction of hand labor in the operations. And all these desirous results of the employment of automatic machinery are probably more necessary to the producers of the family of standard products in which there is not the protection against competition granted by specialties, than they are to those whose market is to a great extent theirs to cultivate and keep.

The formation of the present McKesson & Robbins with the shifting to Bridgeport of all manufacturing operations of the various manufacturing wholesalers who were taken into the group, naturally has resulted in greatly increased manufacturing activity at Bridgeport. The line, as is generally known, has been entirely revamped. Production of this line has been handled by McKesson with the introduction of fully automatic line-ups to handle their various products.

Three separate line-ups for the wet line of products fills every bottle of the various products over the long range of sizes from one ounce to sixteen ounce bottles. The bottles are filled by eighteen head rotary vacuum filling machines. From the filling machines the bottles pass on conveyor belts to the labelers, and then automatic capping machines from whence they travel to the cartoners. The circulars are folded and placed around the bottle automatically before the bottles are placed in the cartons. The cartons, which come in a flat position are opened, and the bottle and circular thrust in. From the cartoning machine the packages are passed to the shipping cases which are automatically sealed.

For handling the dry line there are separate line-ups for the crystal substances and the powder substances. These are quite similar in all units with the exception of the unit that does the actual filling of the product into the package. The crystal packing line-up has a filling machine that fills five packages at once, and the powder packing line-up has a filling machine that fills two packages at once.

The advantages of the introduction of automatic machinery into the McKesson plant can be appreciated when it is realized that there are probably 65 items in the wet line many of which are packed in several sizes. The dry line of crystals and powders contains probably 35 items, many of which also are packed in several sizes. By running these products through in rather large lots production is more rapidly and uniformly handled with considerable saving of labor, time and space.

## New Incorporations

Olco Mfg. Co., New York. Toilet preparations. Capital $20,000. J. E. Ankus, 49 West 71st St., New York City.

Biocerta Corp., New York. Drugs. Capital $10,000. A. Marcus, 110 East 42nd St., New York, N. Y.

A. M. Hopper, New York. Patent medicines. Capital 2,000 shares common. Hartman, Sheridan, Tekulsky & Pecora, 285 Madison Ave., New York City.

Warner's Renowned Remedies Co., Wilmington, Del. Medicines, chemicals. Capital $5,000, 1,000 shares common. Corporation Trust Co. of America, Wilmington, Del.

N. Y. Laboratory Products, New York. Pharmaceutical products. Capital $500. W. S. Anderson, 45 Lexington Ave., New York City.

Phyllosan Corp., Wilmington, Del. Drugs, medicines, foods. Capital 185,000 shares common. Corp. Trust Co. of America, Wilmington, Del.

Rewhite Corp., Dover, Del. Medicines, cosmetics. Capital $100,000. U. S. Corporation Co., Del.

Tex Laboratories, New York. Chemicals. Capital $100,000. Watson & Looby, Albany, N. Y.

H. Wilson, Inc., Montclair, N. J. Perfumery. Capital 3,000 shares common. Frazer & Trimble, Montclair, N. J.

Medicinal Products Corp., Wilmington, Del. Securities. Capital $180,000. Corporation Trust Co. of America, Wilmington, Del.

Drug Industries, Inc., New York. Delaware Charter. Chemicals. Capital 2,000 shares common. U. S. Corp. Co., Del.

Jentel Products Co., Philadelphia, Pa. Delaware charter. Drugs, medicines. Capital 1,500 shares common. Corporation Guarantee & Trust Co., Del.

La Gerardine, New York. Toilet articles. Capital 21,500 shares common. Platt, Field & Taylor, 120 Broadway, New York.

Lee Laboratories, Inc., Wilmington, Del. Drugs. Capital 2,500 shares common. Corp. Trust Co. of America, Wilmington, Del.

Synorga, New York. Cosmetics. Capital $5,000. W. J. A. Mack, Jamaica, N. Y.

Lacto Pharmacal Labs., Teaneck, N. J. Capital $100,000 pf., 50,000 shares common. Keeler & Harrison, New York City.

Peggy Sage, New York. Cosmetics. Capital 1,000 shares common. J. A. Murphy, Albany, N. Y.

New England Magnesia Corp., Wilmington, Del. Medicines, chemicals. Capital $700,000. Corp. Trust Co. of America, Wilmington, Del.

Prosthetic Products, New York. Dental goods. Capital $100,000. D. J. Miller, 30 East 42nd St., New York City.

Charles of the Ritz Holding Corp., Wilmington, Del. Stocks, bonds. Capital 75,000 shares common. Corp. Trust Co. of America, Wilmington, Del.

McKesson VanVleet Ellis Corp., New York. Pharmaceutical, medicinal preparations. Capital $700,000. Corp. Trust Co. of America, Wilmington, Del.

Bio-Chemical Products Co., Wilmington, Del. Compounds for live stock, poultry. Capital $25,000. Delaware Registration Trust Co., Wilmington, Del.

# Choosing a Seal

**The false theory that appearance alone should be the basis of choosing a container closure is exploded by Mr. Chilson who gives the proper course to follow if disastrous results are to be avoided.**

IN THE more progressive houses of the pharmaceutical and cosmetic industries the selection of a proper seal is given the same scientific consideration with which chemical problems of the industries are solved. It not infrequently happens, however, that the need for a different seal is brought home to the manufacturer to the costly tune of large returns and loss in prestige. The trial and error method is still too often used.

So many diverse, and, frequently, antagonistic factors are involved in the selection of a closure that the closure should be selected by a committee, competent to arrive at a compromise which will redound to the best advantage of the business. Invariably, package design is left to the sales or advertising departments. Occasionally, the factory manager is included to give his view on the production efficacy of the package. But the selection committee ought to include also, the chemist and the cost accountant.

It goes without saying that package artistry is essential in putting over a new product. This point of view can be well represented by the sales manager. His requirements should be deferred to within the limits of practicability. But salesmen are notoriously bad judges of the efficacy of a closure, and the possibility of handling it in production. Unfortunately the salesmanager often is also an official of the company, and will over-ride practical considerations to get what he considers to be an artistic package.

By Francis Chilson

But the production man's view point must always be considered in order to determine whether the closure can be handled economically in the plant. Since production is essentially an engineering function, the factory manager is often unable to appreciate the importance of sales appeal in a product; nor is he always competent to say what chemical effect closure will have on the product.

## II

That is where the chemist fits in. It is his job to determine from the physical and chemical nature of the product what its effect will be on the closure selected, and whether the material will evaporate or seep.

Finally the cost man should be present to determine the relationship of the new seal to the total cost of the product.

If the product is highly volatile or liable to seep, or is efflorescent or hydroscopic, the seals that will not serve can be discarded by the simple process of elimination. Then, if all the various opinions of the committee are reconciled with respect to a group of closures, the final step is to take this group and run a comparative test to determine which one is most effective. Usually, out of a wide variety of possible closures, only a few will serve the purpose.

Then a half dozen containers fitted with each type of closure should be secured from the respective closure manufacturers. If possible all such contajners should be of the same capacity. (Owing to possible flaws in the glass it is desirable to obtain at least a half dozen containers fitted with each type of closure. It sometimes happens in tests of this kind erroneous judgments are arrived at because only one container of each type is used and the closure is condemned because of a fault in the glass.) If the test happens to be limited to various types of metal closures, be

sure that the same kind of liner is used throughout. Carefully weigh each container and its closure before filling and mark this weight on a label affixed to the quantity.

Then fill each container with a carefully measured quantity of the product to be sealed. Weigh again and mark the gross weight on the label of each container. Place all containers in a heated room or oven under exactly the same conditions and leave for a definitely fixed period of time. (The nature of the product will determine whether a dry or a wet place is selected for the test).

When that definite period of time has expired all containers should be reweighed, and the new gross weights marked on the labels. Then tabulate all the weights and calculate the percentage of loss or gain for each type of closure. For certain unstable materials it will be necessary to chemically test the contents of each package in addition to reweighing, for the reason that the product may break down even though it does not lose weight.

Chemical reactions on various types of closures can easily be determined in the laboratory.

Each step in this test must be carried out under exactly the same conditions. Otherwise it will be deceptive rather than informative. Unquestionably it should be done in the laboratory, where exact conditions may be provided for the test.

If a metal cap must be used, the selection of a proper seal often depends on the type of liner used. In any case it must be remembered that when comparative tests of closures are made the liners in each closure must be exactly alike.

This test will reveal invariably the closure that is best suited for your product. Sometimes two or three types of closure are found to be equally effective. Obviously, in that case artistic considerations will determine the final choice.

### III

Having chosen an effective seal after much labor, it not infrequently happens that the closure will be condemned later because of conditions in the plant. A perfectly good closure will be placed at the mercy of hand application. While most houses have adopted capping machines for the application of jar closures, they still apply bottle closures by hand ! In many cases the reason for this lies in the cost of capping or sealing equipment, and the fact that they produce a variety of products in various sizes of containers.

But it should be remembered that sealing equipment is desirable not only because it accelerates production, but also because it is *the only way to achieve absolutely uniform sealing.*

When seals are applied by hand no two will be exactly alike. One can stand by a belt and test the packages that have been sealed by hand. A dozen or so will be perfect, then along will come a few that are not perfect.

The strength of human hands is a variable factor. The tightness with which a seal is applied will depend on the hour of the day, the physical condition of the worker, and the speed of the equipment. It will also vary in different workers. Even a worker's mental attitude determines the zest she will put into her work.

In the plant of a well-known Philadelphia manufacturer the writer observed a group of girls madly endeavoring to keep pace with a high speed filling machine. The girls were being pushed far beyond their effective capacity while the machine was in operation in order to keep the product moving. But a test showed less than sixty per cent. were sealed tightly; and yet the manufacturer was condemning his closure !

It can be stated definitely as a result of long experience that a hand-applied seal is no seal at all. This is particularly true of threaded seals. Any manufacturer reading this article can test this statement by stepping into his plant and examining say, a hundred packages as they come down the belt, or by taking his product out of his stock room and testing them.

A hand-capping device should be used where automatic equipment is not practicable. These are usually so devised that the cap is placed on without fatiguing the worker.

In any case don't condemn the closure for faults in application!

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## A. D. M. A. Convention Reservations

Frank J. McDonough, chairman of the General Entertainment Committee of the Annual Meeting of the American Drug Manufacturers' Association, requests everyone who is expecting to attend the meeting which will be held at Carolina Hotel, Pinehurst, N. C., April 22-26, to send their reservations to the hotel immediately.

Mr. McDonough states that those expecting to be in attendance can not act too soon as the convention starts on the Tuesday following Easter Sunday, and other guests who spend the holidays at the hotel may be slow in moving unless the hotel management is notified well ahead of time as to how many will be present.

Reservations should be sent to H. B. Emery, Hotel Carolina, Pinehurst, N. C. Rates are $16.00 per day with meals and double room with bath for two persons. Use of room and bath for one person is $10.50 per day.

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## Vitalis Counterfeiters Arrested

Producers of spurious Vitalis were brought into court in Philadelphia by Lewis Brothers, producers of Vitalis. Six hundred gross of bottles, six hundred of caps, labels and cartons and a quantity of spurious Vitalis were destroyed after being turned over to Lewis Brothers in return for reducing the bail for the two accused men from $25,000 to $5,000 each.

The two men charged with the crime are Louis Lerner and Samuel Liebes. According to the detectives, they found a fully equipped factory in operation with the two arrested men busy filling the bottles with the spurious product. A daughter of Lerner was busy labeling and packing the goods in corrugated cartons printed in exact imitation of the Vitalis shipping carton.

# Demanding Psyllium Seed

**Only on the market five years, psyllium seed has met with such heavy demand that available world supplies are now being taken at a 100 per cent. advance in price. Undoubtedly the higher prices will open up new sources.**

ALTHOUGH only on the market for five years, psyllium seed, or flea seed as it more commonly is termed in the trade, has had a rapid growth from the point of sales of the commodity to the public with the result that the seed itself has advanced very sharply in price due to the fact that supplies both in this country and abroad are very scarce.

The product was first introduced as a laxative about five years ago by Lanman & Kemp, wholesale druggists of New York. Surprising enough, this firm, which has been in business since 1808, is a wholesale druggist for Latin America, doing all its wholesaling to these foreign countries and none in the United States. For many years however, the firm has sold its "Florida Water" in the United States although domestic sales of this item are said to be only about two per cent. of the total world sales. But their psyllium seed, called "Naturalax" was developed entirely as a domestic business and thus far has not been sold abroad.

The product has been handled by Lanman & Kemp in a strictly ethical fashion, being sold entirely on the doctor's prescription. Lanman & Kemp have centered their efforts on educating the physician.

Since the time that "Naturalax" was first introduced, a number of other manufacturers and distributors have packaged psyllium seed, approximately 117 different brands having recently been collected. Now the situation has arisen that the public has demanded the product in such quantities that the ordinary sources of supply are depleted and prices have advanced to the present high market which is quoted at approximately 39 cents per pound for shipment.

The origin of psyllium seed is generally described as Southern Europe and Northern Africa. A recent circular by the Department of Commerce, however, does not mention Africa when listing the various countries of origin. It is thought, moreover, that the African seed in very large measure is produced in the French Colonies and is shipped to France from whence it is exported as French seed.

It is quite generally conceded that the seed that runs the highest in quality is the Spanish variety. However, it is also generally conceded that the greatest amount comes from France, the French seed ranking second in point of quality. Production of black seed in France is centered in the region of Thor,

As psyllium seed reaches the ultimate consumer.

Department of Vauclause, but certain quantities of the seed are grown in other departments of the southern section of the country. Saint-Remy in the Bouches-du-Rhone department, is the center of the cleaning and preparation of the seed. It is stated that in Northern France there is some treatment of white seed but as far as can be ascertained, production of this variety in France is insignificant.

Annual production of black psyllium seed in France ranges from 200 to 500 metric tons. In 1927 the crop totaled approximately 500 metric tons, but the 1928 crop was estimated at only 300 tons. At the end of 1928 France had a carry-over of about 100 tons, which indicates that the sales during 1928 were 400 tons, and also that there was 400 tons available for sale in 1929 if the stocks were completely sold out. Thus, so far as France is concerned, all the seed on hand from carry-over and production during 1929 would normally have passed into consumption even though there was no increase in demand. The increased demand has only aggravated the situation.

The U. S. is the largest buyer of French seed, and it is stated that the demands of American buyers were the cause of the cultivation of the seed in that country on its present scale. Opinions in France are that only one-half of the seed produced is exported, the remainder being consumed in France. This country took 121 short tons of French seed in 1927 for which a value of $52,867 was paid. Shipments have steadily increased in volume during 1928 and 1929.

The Spanish production is estimated by large dealers there at approximately 100 metric tons, of which half is produced in the provinces of Cadiz and Seville. Annual production in four southern provinces is placed at 13½ metric tons (13,500 kilos), the Province of Granada producing 10,000 kilos, Malaga, 2,000 kilos; Almeria, 1,000 kilos, and Jaen, 500 kilos. It is estimated that the Province of Murcia yields about 10,000 kilos annually, as does Mallorca, one of the Balearic Isles.

The third seed in the order of generally accepted quality is that of Italian origin, and Italy is one of the potential important sources of the product. In Italy the seed is grown in the swampy regions of the northern part of the country. The Italian production comes largely from places adjacent to Leghorn and is entirely of the wild variety. Crops in Italy are gathered in September, approximately five months being necessary for maturity. It is stated that the total Italian production is approximately 30 tons per year.

Production of seed in Italy does not vary from year to year as no attempt has thus far been made to stimulate production. However, during 1927 improved methods of gathering and cleaning were introduced with the result that prices were greatly reduced. Demand for psyllium seed from Italy did not become active until the latter part of 1928, and for that reason, together with lower production costs, the price in Italy dropped about 20 per cent. for the 1928 crop which was sold through the fore part of 1929. The U. S. takes approximately two-thirds (20 tons) of the Italian production, with the balance going to Austria, Germany and France. There is only one firm in the Leghorn district of Italy handling psyllium seed, and is said that this firm practically controls the market.

It is reported that although all of the Italian seed grows wild, experimental attempts are being made with a view to cultivation.

Psyllium seed is also now available in the Phillipine Islands according to advices to the Department of Commerce. Just how much material is available here is not known.

The American Consul at Athens also reports that the seed grows abundantly in a wild state in Greece. But up to the time of his report early in 1929, the seed had neither been gathered nor sold in that country, no commercial use being made of the seed. It is quite likely, however, that under the stimulus of high prices, peasant labor might be engaged to gather the Greek seed.

Psyllium seed seems definitely to have taken a place in the market for mechanical laxatives. It is the latest of the products offered as mineral oil, bran and agar agar have been offered. The action of the seed is caused by a fine mucilage formed when the seed absorbs water. The seed and the mucilage are chemically inert. The mucilage passes through the intestinal tract without being absorbed, and, according to the promotors of the seed, combines the lubricating properties of mineral oil with the mild stimulation exerted by agar agar.

An effect on the sale of agar agar by crude merchants is reported by some, and these merchants openly state that the decline in agar agar sales is solely due to the increase in demand for psyllium seed which is replacing agar agar in the laxative market.

Imports of psyllium seed are not totaled by the Bureau of Foreign & Domestic Commerce, and as it is a duty free article no statistics are available. However, unofficial sources of information indicate that imports during 1929 reached a total of 800,000 pounds or 400 tons.

However, the sharp increase in demand is indicated by the fact that imports during January, 1930 reached a total of 200,000 pounds, which is as much as was imported during three months last year. The heavy imports of January would not indicate such a heavy demand if the market had weakened under the strain, or in fact if the market had not advanced so sharply with all this material coming into the country. It is a certainty that the country is becoming decidedly psyllium seed conscious, and that for some while to come, increased demand will be experienced by the sellers of this commodity.

# Ergot Pharmacology

By Marvin R. Thompson

THE most widely used preparations of Ergot may be conveniently divided into two classes, depending upon the menstruum employed in the extraction processes, as follows: (*a*) Those involving the use of an aqueous menstruum for the extraction, such as Extractum Ergotae Aquosum, N. F. (23), (commonly known as "Ergotin" or "Ergotine"), Extractum Ergotae, and Extractum Ergotae Liquidum of the B. P. (40); and (*b*) those involving the use of hydroalcoholic or acid-hydroalcoholic menstrua, as exemplified by Fluidextractum Ergotae of the U. S. P. (24). Most proprietory preparations of Ergot also fall into one or the other of these two classes (see "New and Non-official Remedies," 1928 and 1929).

The aqueous preparations only are considered in this report. A study of the preparations of the second class will be reported in another paper of this series.

### Preparation of Aqueous Extracts of Ergot

The pharmaceutical procedure for the manufacture of Aqueous Extract of Ergot, N. F. (23) and that for the manufacture of Extract of Ergot and Liquid Extract of Ergot, B. P. (40) are essentially the same. In each case, the drug is extracted with aqueous menstruum, the aqueous extract is concentrated at a moderate temperature, and supposedly inert material is precipitated by the addition of alcohol and filtered. The concentration of Liquid Extract of Ergot, B. P., is adjusted so that 1 cc. represents the water-soluble physiologically active principles of 1 gram of crude ergot. In the preparation of both the B. P. and N. F. semi-solid Extract of Ergot the aqueous extract must be further concentrated to a semi-solid or pilular consistence. Neither the N. F. nor the B. P. require the preparations to be standardized in any way.

The N. F. and B. P. differ slightly as to the aqueous menstruum employed in their preparations. The N. F. specifies chloroform water while the B. P. specifies water as the extraction menstruum. The small amount of chloroform in the menstruum of the N. F. preparation is not sufficient to alter the solvent properties of the water, but is intended to inhibit fermentation or putrefaction during the extraction process. Theoretically, then, both processes should yield similar products with respect to nature and amount of activity, as the small amount of chloroform present in the N. F. menstruum is expelled by evaporation during the concentration of the extract.

Although these aqueous Extracts of Ergot have received considerable attention in the literature, most of the studies reported have been incomplete. The pharmaco-dynamically active constituents of ergot have been discussed (37). Briefly, they consist of a series of specific alkaloids, of which ergotoxine and ergotamine are the most important; and a series of non-specific amines, such as histamine, tyramine and cholines. Several investigators (16, 13, 19,) have found that aqueous extracts of ergot owe their pharmaco-dynamic activity to the non-specific amines of the drug and that preparations of this type are practically devoid of the specific alkaloids. Since, in the light of present-day opinion, the alkaloids are the specific and desirable active constituents of ergot from the clinical standpoint (1, 19, 28, 34), it might be concluded that Extracts of Ergot prepared by extraction with water are valueless with respect to ergot therapy.

A study of these aqueous Extracts of Ergot was undertaken for the purpose of determining the nature of their activity and the factors which influence the activity of ergot preparations of this type. The experimental studies embraced aqueous extracts of ergot of the following types, the numbers corresponding to those in Table II:

(*1*) Extractum Ergotae, B. P. Method:

(*a*) Allowed to ferment during aqueous extraction.

(*b*) Not permitted to ferment during aqueous extraction.

(*2*) Extractum Ergotae Liquidum, B. P. Method

(*a*) Allowed to ferment during aqueous extraction.

(*b*) Not permitted to ferment during aqueous extraction.

(*3*) Extractum Ergotae Aquosum, N. F. Method

(*a*) N. F. method in detail; evaporated to *pilular* consistence.

(*b*) N. F. method, except that the concentration was adjusted by evaporation to a point such that 1 cc. of the chloroform-water alcohol-precipitated extract represented 1 gram of crude ergot.

(*c*) Same as 3 (*b*), except that the ground drug was de-fatted with petroleum benzine before proceeding with the chloroform water extraction.

(*4*) *Alkaline Aqueous Extract of Ergot, Special*:

Prepared by de-fatting with petroleum benzine and exhausting the drug by percolation with a 3 per cent. solution of sodium bicarbonate in water at a temperature below 10° C. to pre-

vent fermentation. Twenty per cent. of alcohol was added to the finished product.

(5) *Acid Aqueous Extract of Ergot, Special*:

Prepared as No. 4, except that the extraction menstruum consisted of 0.2 per cent. hydrochloric acid U. S. P. in water. Twenty per cent. alcohol was added to the finished product to prevent fermentation.

Up to the present time, available chemical methods have not proven satisfactory in accurately determining the nature of ergot preparations. Several biological methods have been found to yield reasonably accurate qualitative and quantitative information on the activity of the various constituents of ergot. Hence, the following biological methods were used in this study:

(*a*) *Cock's Comb Method*, official in the U. S. P. X., for the assay of Fluid-extract of Ergot. The method as employed has been described in detail by Edmunds and Hale (30), by Gittinger and Munch (15), and by Pattee and Nelson (28). It is reputed to measure the alkaloidal activity of the ergot preparation. Sollmann (14) states that the amines may influence results by this method, although others (28, 34) have found it to yield results comparable to those obtained by the Broom-Clark Isolated Rabbit Uterus Method for the estimation of the alkaloidal content of Ergot preparations. The cockerels used met the specifications of the U. S. P. They were those used in the routine assay of ergot preparations in the Pharmacological Laboratory. Their individual reactions to the U. S. P. Standard Fluid-extract of Ergot were determined every three months to correct for individual changes in susceptibility and tolerance from time to time, as recommended by Gittinger and Munch (15) and Pattee and Nelson (28). Two groups of birds were employed. Those in one group, designated "old cockerels" in the tables, had been standardized and used every two weeks for 6 months or more in testing ergot preparations. Those in the other group, designated "new cockerels" in the tables, were new birds that had never undergone ergot testing, aside from two or three injections of Standard Ergot at 2-week intervals for the purpose of establishing their threshold reactions (15). The two groups were used to determine whether or not continued usage played any part in the pharmacodynamic response of the birds to various active constituents of ergot.

(*b*) *Histamine-Ergot Alkaloid Inhibition Method*, involving the use of the isolated guinea-pig uterus. This method, described in a preceding article (39) serves to measure the alkaloidal activity of the preparation by the ability of definite concentrations of ergot alkaloids to inhibit the response of the guinea-pig uterus to constant doses of histamine.

(*c*) *Broom-Clark Isolated Rabbit Uterus Method*.—The details of this method are described by Pattee and Nelson (28) and are similar to those described by Broom and Clark (13) except that the modification proposed by Pattee and Nelson, and found by the authors to obviate possible amine interference, was used. The modified method was used because aqueous Extracts of Ergot were found to contain a higher proportion to amines to alkaloids than alcoholic extracts. This method is reputed to measure the alkaloidal activity of the ergot preparations (13, 28, 19, 31, 33, 34) irrespective of the amine content.

(*d*) *Isolated Guinea-Pig Uterus Method* for the determination of the amine activity of ergot preparations. This method, already described in detail (38) provides for the estimation of the resultant amine activity expressed in terms of histamine. Alkaloidal interference is obviated by observing the details described. All of the amines identified with ergot stimulate the described tissue to contraction. Therefore, the method serves to estimate the resultant effect of all of the amines present, but does not serve to differentiate between or indicate which of the amines are present and responsible for the observed uterine activity. Parallel pressor studies on cats or dogs are of great assistance in determining which of the two most important amines (histamine and tyramine) predominates in mixtures, as both exhibit decidedly differing activity upon the blood pressure of the usual test animals. Nelson and Pattee (1) state that although no positive statement is available as to which of these amines predominate, it is generally agreed that most of the amine activity may be ascribed to histamine. The results of these studies tend to confirm this statement.

(*e*) *Pressor Method to Anesthetized Dogs*.—The usual technique was followed in carrying out this method. Male or female dogs weighing approximately 10 kilograms were anesthetized by the intraperitoneal injection of 125 to 150 milligrams per kilogram of sodium luminal. Both vagi were severed and artificial respiration was administered. The blood pressure was recorded from the carotid artery and the drug preparations were introduced by way of the canulized femoral vein in the usual manner. This method has been applied qualitatively only, because it was practically impossible to obtain accurate quantitative information owing to susceptibility variations in dogs and the difference in the pressor activity of the various amines and alkaloids of ergot. The blood pressure studies are therefore considered apart from those involving other methods.

**Table I. Crude Drug Samples Obtained From Imported Ergot**

| Crude drug no. | Commercial source | U. S. P. X. Potecny* of Crude Drug: Old cockerels Per cent. | U. S. P. X. Potecny* of Crude Drug: New cockerels Per cent. | Total Alkaloids of Crude Drug Calculated as Ergotamine Base: Broom-Clark Isolated Rabbit Uterus Method (28) Per cent. | Total Alkaloids of Crude Drug Calculated as Ergotamine Base: Isolated Guinea-Pig Uterus Method for alkaloids (39) Per cent. | Total amines of crude drug, calculated as histamine, by Isolated Guinea-Pig Uterus Method for amines (28) Per cent. |
|---|---|---|---|---|---|---|
| 1 | Russian | 130–150 | 160–170 | 0.05 | 0.04 | 0.035 |
| 2 | Polish | 175–200 | 175–200 | 0.067 | 0.06 | 0.015 |
| 3 | Russian | 25–80 | 100 | 0.036 | 0.03 | 0.045 |
| 4 | Russian | 200–225 | 200–225 | 0.075 | 0.07 | 0.033 |
| 5 | Spanish | 300–450 | 500 | 0.150 | 0.15 | 0.052 |
| 6 | Spanish | 400–450 | 400–450 | 0.133 | 0.12 | 0.027 |
| 7 | Portuguese | 250–275 | 259–275 | 0.080 | 0.08 | 0.012 |
| 8 | Portuguese | 150–250 | 350–400 | 0.120 | 0.11 | 0.087 |
| 9 | Spanish | 100–350 | 200-300 | 0.125 | 0.12 | 0.125 |
| 10 | Spanish | 100–350 | 200–300 | 0.133 | 0.13 | 0.150 |

*Potency in terms of U. S. P. Standard Fluidextract of Ergot.

**Table II. Pharmaco-Dynamic Activity of Aqueous Extracts Prepared from Crude Ergots of Table I***

| Crude drug no. | Aqueous preparation | Potency by Cock's Comb Method (24, 15) U. S. P. Potency for Fluidextract**: Old cockerels Per cent. | Potency by Cock's Comb Method (24, 15) U. S. P. Potency for Fluidextract**: New cockerels Per cent. | Total Alkaloids, Calculated as Ergotamine** Base: Broom-Clark Method (28) Per cent. | Total Alkaloids, Calculated as Ergotamine** Base: Isolated Guinea-Pig Uterus Method for alkaloids (39) Per cent. | Total Amines Calculated as Histamine** Isolated Guinea-Pig Uterus Method for amines (38) Per cent. |
|---|---|---|---|---|---|---|
| I | (1) Extractum Ergotae (Piliular) B. P. Method: | | | | | |
| | (a) Allowed to ferment | 33 | 10 | 0.003 | †† | 0.045 |
| | (b) Not allowed to ferment | 20† | 20† | 0.003 | †† | 0.025 |
| | (2) Extractum Ergotae Liquidum, B. P. Method: | | | | | |
| | (a) Allowed to ferment | 20† | 25 | 0.008 | †† | 0.050 |
| | Not allowed to ferment | 20 | 10 | 0.006 | †† | 0.030 |
| I | (3) Extractum Ergotae Aquosum, N. F.: | | | | | |
| | (a) N. F. Method—evaporated to pilular consistence | 20† | 20† | 0.005 | †† | 0.025 |
| | (b) N. F. Method—not evaporated | 20† | 20 | .006 | †† | 0.030 |
| | (c) Same as (b), except drug defatted with petroleum benzine before extraction | 20† | 20 | 0.006 | †† | 0.035 |
| | (4) Alkaline Aqueous Extract of Ergot (3% sodium bicarbonate menstruum—de-fatted before extraction, 20% alcohol added to finished product): | | | | | |
| | Not allowed to ferment | 20 | 20† | 0.002† | †† | 0.035 |
| | (5) Acid Aqueous Extract of Ergot (same as No. 4 except 0.2% hydrochloric acid U. S. P. in water used as menstruum, 20% alcohol added as in No. 4): | | | | | |
| | Not allowed to ferment | 50 | 70–80 | 0.025 | 0.02 | 0.030 |
| II | (1): | | | | | |
| | (a) | 20 | 20† | 0.004 | †† | 0.030 |
| | (b) | 20† | 20† | 0.003† | †† | 0.009 |
| | (2): | | | | | |
| | (a) | 20† | 20 | 0.006 | †† | 0.040 |
| | (b) | 20† | 20† | 0.004 | †† | 0.015 |
| | (3): | | | | | |
| | (a) | 20† | 20† | 0.003 | †† | 0.008 |
| | (b) | 20† | 20 | 0.006 | †† | 0.010 |
| | (c) | 20 | 20 | 0.008 | †† | 0.015 |

**Table II. Pharmaco-Dynamic Activity of Aqueous Extracts Prepared from Crude Ergots of Table I***

| Crude drug no. | Aqueous preparation | Potency by Cock's Comb Method (24, 15) U. S. P. Potency for Fluidextract** Old cockerels Per cent. | Potency by Cock's Comb Method (24, 15) U. S. P. Potency for Fluidextract** New cockerels Per cent. | Total Alkaloids, Calculated as Ergotamine** Base Broom-Clark Method (28) Per cent. | Total Alkaloids, Calculated as Ergotamine** Base Isolated Guinea-Pig Uterus Method for alkaloids (39) Per cent. | Total Amines Calculated as Histamine** Isolated Guinea-Pig Uterus Method for amines (38) Per cent. |
|---|---|---|---|---|---|---|
| | (4): | 20† | 20† | 0.002† | †† | 0.015 |
| | (5): | 100–120 | 100–120 | 0.042 | 0.04 | 0.013 |
| III | (1): | | | | | |
| | (a) | 30–40 | 20† | 0.005 | †† | 0.063 |
| | (b) | 20 | 10 | 0.003 | †† | 0.037 |
| | (2): | | | | | |
| | (a) | 40–50 | 25 | 0.007 | †† | 0.072 |
| | (b) | 20† | 20† | 0.003 | †† | 0.045 |
| | (3): | | | | | |
| | (a) | 20 | 20† | 0.004 | †† | 0.037 |
| | (b) | 10† | 20† | 0.005 | †† | 0.040 |
| | (c) | 20† | 20† | 0.007 | †† | 0.045 |
| | (4): | 20–30 | 20† | 0.002† | †† | 0.042 |
| | (5): | 40–50 | 70–80 | 0.027 | .02 | 0.045 |
| IV | (1): | | | | | |
| | (a) | 30–40 | 10–20 | 0.006 | †† | 0.050 |
| | (b) | 10–20 | 20† | 0.004 | †† | 0.027 |
| | (2): | | | | | |
| | (a) | 20–30 | 20† | 0.008 | †† | 0.068 |
| | (b) | 20† | 20† | 0.005 | †† | 0.032 |
| | (3): | | | | | |
| | (a) | 20† | 20† | 0.003 | †† | 0.027 |
| | (b) | 20 | 20† | 0.004 | †† | 0.035 |
| | (c) | 20† | 20† | 0.005 | †† | 0.033 |
| | (4): | 20 | 20† | 0.002† | †† | 0.033 |
| | (5): | 100 | 120 | 0.047 | 0.04 | 0.030 |
| V | (1): | | | | | |
| | (a) | 30–50 | 20 | 0.006 | †† | 0.087 |
| | (b) | 20† | 20† | 0.003 | †† | 0.042 |
| | (2): | | | | | |
| | (a) | 20† | 25 | 0.010 | †† | 0.100 |
| | (b) | 20† | 20† | 0.005 | †† | 0.052 |
| | (3): | | | | | |
| | (a) | 20 | 20† | 0.003 | †† | 0.037 |
| | (b) | 20† | 20† | 0.006 | †† | 0.050 |
| | (c) | 20† | 20† | 0.006 | †† | 0.050 |
| | (4): | 25 | 20† | 0.002† | †† | 0.052 |
| | (5): | 100 | 160–170 | 0.066 | 0.06 | 0.050 |
| VI | (1): | | | | | |
| | (a) | 20† | 20† | 0.007 | †† | 0.052 |
| | (b) | 20† | 20† | 0.003 | †† | 0.022 |
| | (2): | | | | | |
| | (a) | 20† | 25 | 0.010 | †† | 0.065 |
| | (b) | 20† | 20† | 0.006 | †† | 0.025 |
| | (3): | | | | | |
| | (a) | 20† | 20† | 0.002 | †† | 0.020 |
| | (b) | 20† | 20† | 0.004 | †† | 0.026 |
| | (c) | 20† | 20† | 0.004 | †† | 0.027 |
| | (4): | 20† | 20† | 0.002† | †† | 0.027 |
| | (5): | 200 | 200 | 0.062 | 0.06 | 0.027 |
| VII | (1): | | | | | |
| | (a) | 20† | 20† | 0.008 | †† | 0.047 |
| | (b) | 20† | 20† | 0.002 | †† | 0.009 |
| | (2): | | | | | |
| | (a) | 20† | 20 | 0.015 | †† | 0.075 |
| | (b) | 20† | 20† | 0.004 | †† | 0.010 |
| | (3): | | | | | |
| | (a) | 20† | 20† | 0.003 | †† | 0.007 |
| | (b) | 20† | 20† | 0.004 | †† | 0.011 |
| | (c) | 20 | 20 | 0.006 | †† | 0.012 |

**Table II. Pharmaco-Dynamic Activity of Aqueous Extracts Prepared from Crude Ergots of Table I***

| Crude drug no. | Aqueous preparation | Potency by Cock's Comb Method (24, 15) U. S. P. Potency for Fluidextract** Old cockerels Per cent. | Potency by Cock's Comb Method (24, 15) U. S. P. Potency for Fluidextract** New cockerels Per cent. | Total Alkaloids, Calculated as Ergotamine** Base Broom-Clark Method (28) Per cent. | Total Alkaloids, Calculated as Ergotamine** Base Isolated Guinea-Pig Uterus Method for alkaloids (39) Per cent. | Total Amines Calculated as Histamine** Isolated Guinea-Pig Uterus Method for amines (38) Per cent. |
|---|---|---|---|---|---|---|
| (4): | | 20† | 20† | 0.002† | †† | 0.012 |
| (5): | | 100 | 120 | 0.040 | 0.04 | 0.012 |
| VIII (1): | | | | | | |
| (a) | | 25 | 40 | 0.012 | †† | 0.155 |
| (b) | | 25 | 20 | 0.005 | †† | 0.072 |
| (2): | | | | | | |
| (a) | | 25 | 50 | 0.015 | †† | 0.167 |
| (b) | | 30–40 | 20† | 0.006 | †† | 0.079 |
| (3): | | | | | | |
| (a) | | 20 | 20† | 0.005 | †† | 0.168 |
| (b) | | 30–40 | 25 | 0.006 | †† | 0.082 |
| (c) | | 25 | 30–40 | 0.008 | †† | .084 |
| (4): | | 50 | 20† | 0.002 | †† | 0.087 |
| (5): | | 100–150 | 175–200 | 0.067 | 0.06 | 0.085 |
| IX (1): | | | | | | |
| (a) | | 60–80 | 30–40 | 0.006 | †† | 0.175 |
| (b) | | 30–50 | 20 | 0.004 | †† | 0.115 |
| (2): | | | | | | |
| (a) | | 60–80 | 20–40 | 0.008 | †† | 0.189 |
| (b) | | 30–40 | 30–50 | 0.006 | †† | 0.125 |
| (3): | | | | | | |
| (a) | | 30–40 | 20 | 0.005 | †† | 0.118 |
| (b) | | 30–50 | 30–50 | 0.005 | †† | 0.123 |
| (c) | | 20 | 25 | 0.006 | †† | 0.123 |
| (4): | | 60–70 | 30–40 | 0.002† | †† | 0.125 |
| (5): | | 100 | 160–175 | 0.067 | 0.06 | 0.125 |
| X (1): | | | | | | |
| (a) | | 60–80 | 50 | 0.006 | †† | 0.175 |
| (b) | | 50–60 | 20–40 | 0.003 | †† | 0.133 |
| (2): | | | | | | |
| (a) | | 70–80 | 50–70 | 0.008 | †† | 0.183 |
| (b) | | 50–60 | 30–40 | 0.005 | †† | 0.147 |
| (3): | | | | | | |
| (a) | | 50–60 | 30–40 | 0.002 | †† | 0.130 |
| (b) | | 50–60 | 50 | 0.004 | †† | 0.127 |
| (c) | | 20–60 | 50–60 | 0.005 | †† | 0.150 |
| (4): | | 50–75 | 20–30 | 0.002† | †† | 0.150 |
| (5): | | 80–150 | 200 | 0.083 | 0.08 | 0.150 |

* Concentration of all preparations adjusted so that 1 cc. represents 1 gram of crude Ergot. Pilular extracts were redissolved in water in a concentration such that 1 cc. of solution represents 1 gram crude Ergot. Expressions of activity or constituent content therefore represent the amounts that were derived from the crude drug by the methods of preparation described.

**Standards Involved in Tables I and II:

(a) For total alkaloids—Ergotamine Tartrate (Sandoz Chemical Co.) corresponding to 84.5% Ergotamine base.

(b) For total amines—Histamine (Pfanstiehl Chemical Co.).

(c) Cock's Comb Potency. Compared with the U. S. P. X. Standard Fluidextract of Ergot prepared and distributed to pharmaceutical manufacturers and scientific investigators by this laboratory, equivalent to 0.03 per cent. Ergotamine base.

† Less than.

†† No results.

## Crude Drug Samples Used in Preparation of Extracts

A rather large number of samples of crude ergot of several varieties have been used in this work. The experimental results obtained on ten of these samples are included in Tables I and II. It is believed that these results are typical for the general run of crude ergot imported into the United States. Several samples have been found to be practically devoid of amine activity by pressor and uterine methods (38), but significant amounts of the alkaloids were invariably present. Most of the samples examined contained appreciable amounts of amines, regardless of

alkaloidal content, variety or origin. A few investigators in this country have recently contended that a high amine content in crude ergot results from deterioration and decomposition of the specific alkaloids of the drug during storage. It has been conclusively shown in these studies that the amine activity is entirely independent of the alkaloidal content. Samples unusually high in alkaloids are frequently correspondingly high in the non-specific amines, although the results in Tables I and II clearly show that the amine activity is entirely independent of the alkaloidal content. Furthermore, aqueous preparations permitted to undergo fermentation or putrefaction (Table II) show a pronounced increase in amine content and at the same time a slight increase in alkaloidal activity. The increase in the alkaloidal content is undoubtedly due to acid formation during the fermentation which increases the efficiency of the water as an extraction menstruum. The increased amine activity is due to fermentation or putrefaction of substances in the ergot other than the active alkaloids. The amine and alkaloidal changes which take place in crude ergot under varying conditions of storage will be considered in a succeeding article.

### Results Obtained

Typical results obtained during these studies are incorporated in Tables I and II. To tabulate the data on all samples studied would unduly extend the length of this report. The ten samples of crude ergot included in Table I were obtained from importations. It will be noted that these samples are not intended especially to typify the general run of importations of the various varieties of ergot regarding activity, but merely to show the amine and alkaloidal activity of the crude drugs entering into the preparation and study of the Aqueous Extracts embraced in Table II.

The "Crude Drug No." in Table I corresponds to the number under the same heading in Table II.

*(To be continued)*

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## Levis President Owens-Illinois

William E. Levis has been elected president, general manager, chairman of the executive committee, and chairman of the operating committee of the Owens-Illinois Glass Co., Toledo, succeeding William H. Boschart who resigned due to ill health.

Mr. Levis, who is thirty-nine years old, was formerly first vice-president and general manager of Owens-Illinois, and prior to the merger of Owens and Illinois, was president of Illinois Glass Co.

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J. L. Hopkins & Co., New York, have prepared an interesting pamphlet describing their various products for the beauty trade and the application of them. Among the items described are: Hopkins Deoleated Almond Meal, Hopkins White Henna Compound, Fijioline Wave Set, and Hopkins Hennasoap Shampoo Powder.

Gamma Pharmacal Corp. is the new name of Gamma Sugar Corp. of Delaware.

## { Editor's Correspondence }

### Controversial Vanilla

Editor, Drug Markets,
Dear Sir:

In your December issue, article entitled "Controversial Vanilla," you quoted from one of our recent market bulletins as to our opinion on production and supplies, and the position taken by various factors in the market.

Further on in the article, you referred to criticism of the Food, Drug & Insecticide Administration. As we were quoted in the first part of this article, and as we have not made, and do not contemplate making any complaints of the Food, Drug & Insecticide Administration, we wish you would correct any impression to that effect.

Our analysis as to the 1929-30 production as contained in our November 1929 market bulletin, from which you quoted, is borne out by figures now at hand. While the production of the 1929-30 crop is less than the 1928-29 crop, yet the former will be about as large as the 1926-27 and 1927-28 crops averaged, which combined with the surplus from the 1928-29 crop will, we believe, be fully sufficient to supply the demand. It is our opinion, therefore, that prices during the coming year will continue relatively reasonable.

We analyze and publish in our market reports from time to time the information coming to us from our several branches in the most important producing districts. This is a part of our service, and it has been found by most buyers to be very helpful. The impression created by the article referred to in our opinion, is a reflection on that service, and it is for that reason that we ask you to make the correction in your next issue.

Yours very truly,
The W. T. Rawleigh Company,
R. G. Sappenfield,
*Vice-President*

Freeport, Ill., Jan. 13, 1930.

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### Regarding Visoterol

Editor, Drug Markets:

We have always anticipated with pleasure the receipt each month of Drug Markets, and in reading the January issue we particularly noted your article which starts on page 21—"Even Viosterol—Finds Sales Plans a Bar to Stable Prices."

In the upper part of the first column on page 23 you say, in speaking of the possibility of preference being shown by a retailer in making purchases of Viosterol, "And if he is a Squibb Distributor operating under the Squibb Plan, Inc., he will thereby gain an additional three to five per cent."

We know, of course, that it is your desire in all your articles to place information before your readers in a correct manner. We, therefore, are enclosing a copy of "The Squibb Plan, Incorporated, on which we have marked paragraph 3 on page 16. You will notice, in this paragraph, that there are certain "*Excepted Squibb Products*" upon which additional discounts do not apply, and in this list are Viosterol and all Viosterol products.

In view of this, you will appreciate, we are sure, that the above statement which you made in your article referred to above, is incorrect.

May we ask that you please insert such a notice in the next issue of Drug Markets, in order to correct any misunderstanding on the part of a retail druggist or other person who may have read the particular article referred to.

Respectfully yours,
E. R. Squibb & Sons,
Jos. C. Hearn,
*Sales Manager Household Products.*

New York, Feb 1, 1930.

LABORATORY tests for purity —more tests—inspection—you do all of these that purity may be "put in". Then let R-O Seals of Alcoa Aluminum make sure that it is "kept in."

R-O Seals of Alcoa Aluminum combine all the easy reclosure features of the screw cap, plus initial hermetic sealing under atmospheric pressure or in vacuum. Applied by a special machine that shuts out the air—that rolls the seal of the thread right into the thread of the bottle—all in one swift operation, R-O Seals of Alcoa Aluminum cover the entire bottle top, both opening and lip. Impurities that contaminate are kept out.

R-O Seals are made of pure Alcoa Aluminum—the non-rusting, non-contaminating metal.

Easily removed with a slight twist, R-O Seals are just as easily replaced. And remember they always reseal the entire pouring surface of the bottle.

Write us for complete information about R-O Seals of Alcoa Aluminum and Sealing Machines. ALUMINUM COMPANY *of* AMERICA; 2459 Oliver Building, PITTSBURGH, PA. Offices in 19 Principal American Cities.

"ROLLED ON" SEALS OF

# ALCOA ALUMINUM

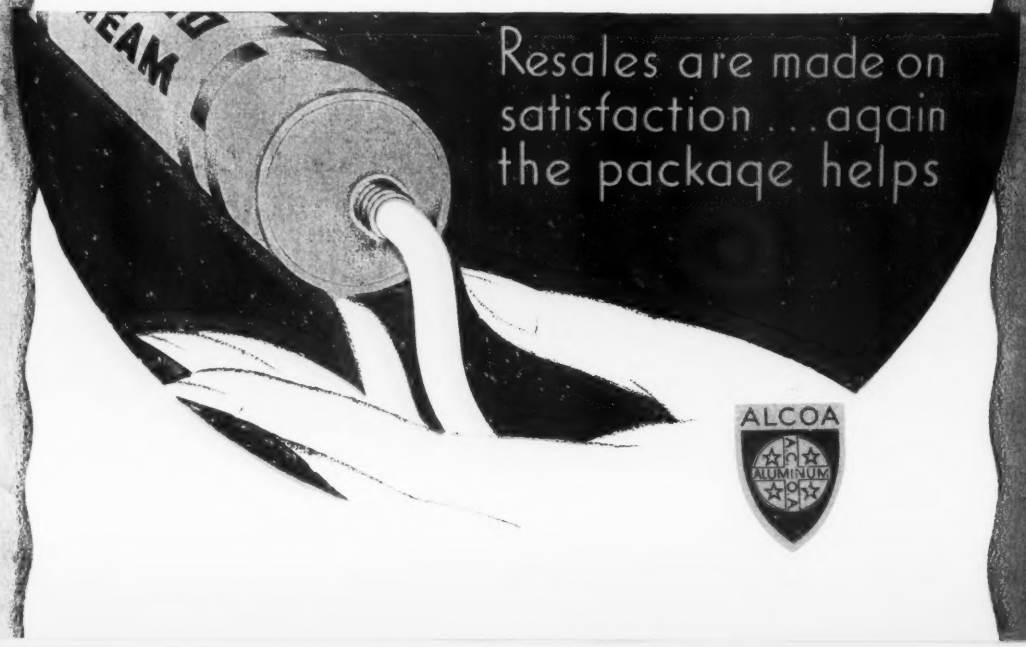
ALCOA

CROWDED counters—eager shoppers—your product on the shelf in competition with dozens of others—scores of sales are made on sight. It is here that collapsible tubes made of Alcoa Aluminum help. The surface of Alcoa Aluminum permits us to furnish tubes with the finest printing to your design. Caps and sides trim and shapely, shoulders burnished brightly.

Caps on and off in an instant. Tubes light, clean and flexible, easy to use. These qualities of collapsible tubes made from Alcoa Aluminum help build up the good will that makes for resales.

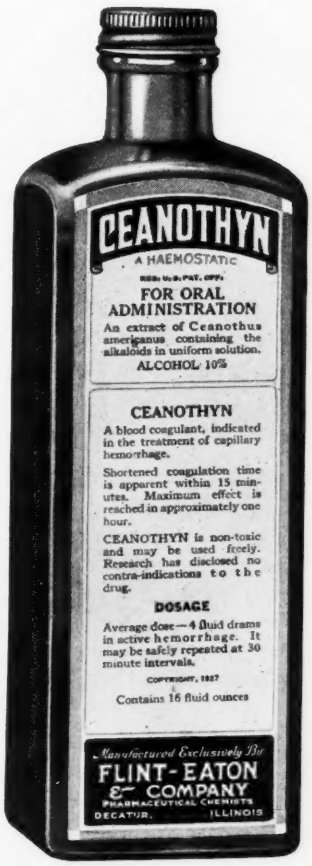
Whether you pack your product in tubes now or not, if you desire information about collapsible tubes of Alcoa Aluminum, we offer technical knowledge and advice. ALUMINUM COMPANY *of* AMERICA; 2459 Oliver Building, PITTSBURGH, PENNSYLVANIA Offices in 19 Principal American Cities.

## COLLAPSIBLE TUBES OF ALCOA ALUMINUM



# A Drug Rejuvenated

**Entirely discarding all reference to former existence of an empiric product accepted by some schools of medicine, this company started entirely from scratch when discoveries furnished the necessary scientific facts to cause reconsideration by the medical profession.**


CEANOTHYN
A HAEMOSTATIC
FOR ORAL ADMINISTRATION
An extract of Ceanothus americanus containing the alkaloids in uniform solution.
ALCOHOL 10%
CEANOTHYN
A blood coagulant, indicated in the treatment of capillary hemorrhage.
Shortened coagulation time is apparent within 15 minutes. Maximum effect is reached in approximately one hour.
CEANOTHYN is non-toxic and may be used freely. Research has disclosed no contra-indications to the drug.
DOSAGE
Average dose—4 fluid drams in active hemorrhage. It may be safely repeated at 30 minute intervals.
Contains 16 fluid ounces
Manufactured Exclusively By
FLINT-EATON & COMPANY
PHARMACEUTICAL CHEMISTS
DECATUR, ILLINOIS

## By W. H. Mysch

WE HAVE but to scan the advertising pages of any medical periodical to encounter any number of products which, senior drug men tell us are rejuvenates of old formulas, old ideas in therapy and, in some instances, of once discarded preparations en toto. In fact the work of Dr. Lynn Boyd, who addressed the Old Point Comfort meeting of the American Pharmaceutical Manufacturers' Association on botanicals, indicated that there will be a general and welcome tendency to brush the cobwebs off many of our time-worn and forgotten drugs.

However, the campaign which our company undertook seems hardly to fall into this group, because rejuvenation of a product would commonly be understood to mean the exploitation of a once popular item which had lost caste with the market. Yet again we might consider our program as an outstanding example of this very procedure because in this instance the re-incarnation was so complete that the product evolved as an entirely new thing not in name alone, but pharmacologically and therapeutically bearing only a slight resemblance to its empiric ancestor.

We shall sketch the background briefly. The preparation which antedated the present Ceanothyn had been manufactured in our laboratories for almost thirty years. So far as we have been able to determine it was the first product of vegetable origin ever marketed to the medical profession for relief of hemorrhage. Certainly it was the first employing the Ceanothus americanus drug.

It grew to fair measure of popularity among a limited group of customers, and when in 1924 its true therapeutic properties were hinted at, we were encouraged by its consistent record to investigate its

histology and pharmacology. The results of this extensive research are a matter of record in various journals. The earliest work was sufficient not only to be convincing evidence of the sales possibilities of a product based on the findings, but also to guide us in determining what the new product should be.

Then we changed the product. Medicinally it is almost identical with the old product. But pharmaceutically, the old and the new preparations bear little resemblance. Our manufacturing methods were reorganized from start to finish. Standards previously impossible of attainment because of lack of information were adopted for both the crude drug and the finished product. These include crude drug assays, a more concentrated finished product, and physiological testing of every batch. Then, we were ready for our sales program which was laid without reference to the old product in any sense. In effect we rejuvenated an old product by making an entirely new one. In no way did we attempt to capitalize on the success of the old product except in introducing it to the limited number of customers who had been users.

## A New Product

Our established market was so small a part of our potential market that there was no particular reason from that standpoint why Ceanothyn should not be handled as a new product. By stretching a point we could easily have drawn upon our experience with the emperic use of this drug to build up a background and present it to the profession as an established product. In earlier days such a plan undoubtedly would have been adopted. But this is an age of progress. "New" is the magic word shouting to us from every billboard and magazine page. "New" is the word that is drawing millions of dollars from American pockets for automobiles, radios, furniture, and practically everything we buy. The physician has caught the spirit of the times, and, when properly interpreted to meet the doctor's ethical demands, "New" is equally important in our line of merchandising as it is in any other line. That was our background.

If our line of reasoning was correct our approach was obvious. With our established market too indifferent for consideration, and with a product which to all intents and purposes was really new, we approached our merchandising problem just as if Ceanethus americanus were really an entirely new drug. Our subsequent experience proved we were right in this particular instance, because however we chose to consider the matter ourselves, we found that with the exception of a few homeopaths and eclectics, Ceanethus americanus was unknown to the medical profession.

Therefore, really we derived nothing from our emperic experience with the drug except our own confidence in its clinical value.

Drawing definite conclusions from the experience of one advertiser is a questionable practice, but we feel that our plan has been sufficiently successful to take note of some of the important steps.

The first step of importance in our problem—just as it is in every other problem—was research. The stress upon competent investigation cannot be exaggerated. It strengthens your own confidence first of all. And unbounded courage based upon confidence in the merit of a product is almost *sine qua non* with successful advertising and marketing in our line.

## Research Is Fundamental

Research is, furthermore, the foundation upon which all claims must be made. Every detail of the advertising campaign is traced through a data sheet. In our program we now have 13 different reports covering all important questions on our research published in recognized scientific journals over the signatures of reputable men whose ethical standing is above reproach. Four others, two of which are of a strictly clinical nature, are either ready for publication or well advanced. Still others are being started so that we will have an endless chain of competently prepared data for our use. To the advertising campaign and the detail men, this information takes the place of the testimonial of general advertising; and the testimonial will always be the most powerful sales argument available, if the prospect knows it to be honest information honestly acquired.

Further experiences of our campaign are merely details that do not lend themselves to theorizing although they are equally important. These details must be worked out according to each individual problem. There is the usual combination of detail men supported by direct mail and space advertising. The question has been asked why we concentrated on direct mail advertising and the answer applies strictly to our proposition. We are not approaching physicians with another cough syrup or sedative. Our product does not fit in with any general class of medication with which we are familiar.

## Real Educational Problem

We had, and still have, a tremendous educational problem. Coagulants have not been in any particular favor, and even the few which have been exploited are of such a vastly different nature that we must count them out as having any appreciable effect upon the establishment of market for a coagulant. In many instances we even found that the effect of their preceding us in the market had been negative. Such a problem cannot be properly treated in space advertising because the story is too long. So we use direct mail in that we may go to whatever lengths are necessary to complete our presentation.

In population centers where potential volumes were sufficient to make the expense a profitable invest-

ment, detail men were used. There is of course, no selling like personal salesmenship, but the expense is a considerable obstacle when the unit of sale is as small as it is with Ceanothyn. Our detail expense per call for 1929, including a rather heavy expense of sending a crew to the West Coast was approximately $1.70 per call. It has taken from six months to two years for a city to pay back the cost of personal detail depending upon its responsiveness. These men averaged 10½ calls per man per day of actual detailing, and slightly more than eight calls per day for every working day in the year.

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## Patents Issued

### UNITED STATES PATENTS

#### Menthol Manufacture

The process of making menthol consists in heating an acyl compound of a condensation product from meta-cresol and acetone. The compound thus obtained—an acyl compound of 3-methyl-6-isopropylene-phenol—is treated with hydrogen. The reaction goes on until eight atoms of hydrogen have been taken up and the compound is saponified. W. Schoeller, Berlin-Charlottenburg, H. Jordan, Berlin-Steiglitz and R. Clark, Berlin, Germany, assignors, Schering-Kahlbaum, Berlin, Germany. U. S. Patent No. 1,737,272, filed June 29, 1928.

#### Acridine Derivative for Therapeutic

The compound is the cholate of 2-ethoxy-6:9-diaminoacridine. It forms orange yellow to yellow crystalline and microcrystalline powders. These are soluble in hot alcohol and methanol, and nearly insoluble in water and ether, possessing a strong antiparasitic action. E. Rothlin and F. Mueller, Basel, Switzerland, assignors, chemical works formerly Sandoz, Basle, Switzerland. U. S. Patent No. 1,738,449, filed December 22, 1927.

#### Sifter Top

The sifter top consists of a sheet metal plate with a number of holes through it. The plate has two slits formed in it, one on each side of the holes, and the metal between the slits is stuck up from the plane of the plate. A cut-off, consisting of a slide, is adapted to fit through the two slits, and means are provided for limiting the movement of the slide. The slide has holes which are adapted to register with the holes in the plate when the slide is at one limit of its travel. C. G. Davidson, assignor, J. L. Clark Manufacturing Co., Rockford, Ill. U. S. Patent No. 1,737,548, filed October 3, 1927.

#### Medical Tablet Container

The container is made in cylindrical form and has a number of separate similar recesses in it. Each of these recesses is closed at the bottom and open at the top, and at the periphery. Each is adapted to contain at least one tablet. The recesses are spaced so as to leave an unrecessed portion of the periphery with a width at least approximately the width of the recess. A cover is arranged to close all of the recesses at the tops. The cover is pivotally connected with the body of the container so that the former can be moved about the axis of the latter. An annular skirt is formed integrally with the cover and surrounds and substantially fits the periphery of the body. This skirt is provided with an opening adapted to be brought into peripheral register with any one of the recesses or with the unrecessed portion of the periphery. This opening is of such size so as to permit the removal of one of the tablets through it, while the other recesses are closed by the skirt. It is also of such size that it is adapted to be entirely closed by the unrecessed portion of the body. B. F. Conner, Hartford, Conn., and W. F. Schmalz, Rockville, Conn., assignors, Colt's Patent Fire Arms Manufacturing Co., Hartford, Conn. U. S. Patent No. 1,737,643, filed March 17, 1927.

#### Iodine Solution and Method of Preparation

The method consists in vaporizing a solvent in the presence of an excess of iodine and condensing the combined vapors. A solution of iodine containing ethylene iodide and useful for antiseptic purposes is thus obtained. W. A. Stephens, Washington, D. C. U. S. Patent No. 1,719,523, filed May 31, 1918.

#### Anaesthetic Compound

This new compound is a substituted omega-piperidyl-alkyl ester of para-zamino benzoic acid. R. Adams, Urbana, Ill., and O. A. Barnes, Colorado Springs, Colo., assignors, Abbott Laboratories, North Chicago, Ill. U. S. Patent No. 1,724,248, filed Jan. 13, 1928.

#### Chlorinated and Ozonized Topical Remedy

This new topical remedy consists of a vehicular element and chlorine and a gas capable of producing nascent oxygen, all incorporated together. B. E. Clarke, Kansas City, Mo. U. S. Patent No. 1,724,562, filed Dec. 10, 1925.

### BRITISH PATENTS

#### Toxin Preparation

An immunizing preparation to be applied by inunction is obtained by treating a broth culture of diphtheria bacilli with a dilute solution of formaldehyde for a prolonged period at incubator temperature and then concentrating the liquid to the consistency of a salve. Excess of formaldehyde may be removed from the product by treatment with slaked lime so as to convert it into formose, or by the addition of alkaline salts or soaps, or ammonia or its derivatives. Ammonia is preferably employed so that hexamethylenetetramine is formed. E. Loewenstein, Vienna, Austria. B. P. No. 314,854, filed April 18, 1929.

#### Ointments

Ointments consist of a non-acid ointment base, such as wool fat or an oxycholesterin derivative which is obtained from it, petroleum jelly, lard, olive oil, or cacao butter, together with a strong lipoid-soluble basic substance, preferably the base of a local anaesthetic, such as cocaine base or para-aminobenzo-yl-N-diethyl-leucinol. According to examples cocaine base is dissolved in anhydrous wool fat, or para-amino-benzoyl-N-diethyl-leucinol is dissolved in a mixture of paraffin salve and an oxycholesterin derivative, or in a mixture of a petroleum jelly and anhydrous wool fat. In place of the basic substance salts of the base may be used and the base afterwards set free, for example by means of an alkaline treatment. Chemische Fabrik vormals Sandoz, Basle, Switzerland. B. P. No. 315,306, filed June 28, 1929.

#### Acetyl Salicylates

Stable medicinal preparations of calcium or magnesium acetylsalicylates are obtained by incorporating with them, either during or after manufacture, small quantities of calcium or magnesium chloride. According to examples, anhydrous calcium chloride is added to a paste of freshly prepared calcium acetylsalicylate and water and the mixture kneaded at low temperature, dried at a temperature of 40° C, and ground. Acetylsalicylic acid is suspended in calcium chloride solution, calcium carbonate or hydrate is added, the mixture stirred in the cold or with gentle warming, and the calcium acetylsalicylate which crystallizes out is filtered off by means of a vacuum filter or centrifuge, and dried without

washing so that some calcium chloride remains. The calcium carbonate may be added as a suspension in calcium chloride solution and the precipitated product is washed with calcium chloride solution before drying.

## GERMAN PATENTS

### Iodine Containing Hormone Compositions

This process is concerned with the preparation of hormone compositions, containing definite amounts of iodine, from such glands of the inner secretion type, which are almost free from naturally combined iodine. Small amounts of iodine in alcoholic solution of accurately determined iodine content are allowed to act upon these hormone-containing organs or their extracts at ordinary temperatures and the compounds which are obtained in this manner are carefully dried. Dr. G. Eichelbaum, Berlin, Germany. G. P. No. 476,717, filed December 1, 1922.

### Colloidal Solutions of Metals

This process refers to the preparation of colloidal solutions of metals and metalloids in oils, fats, waxes, lanolin, vaseline, paraffin and mixtures of these substances. Substances of an acid character or of acid-forming properties, such as sulphuretted hydrogen, hydrochloric acid gas, iodine and the like, are allowed to act in the absence of water on metals or metallic oxides, which are suspended in oils, fats, waxes, lanolin, vaseline, paraffin or suitable mixtures of these substances with or without preliminary conversion into the iroleosols. Chemische Fabrik von Heyden A. G., Radebeul, near Dresden, Germany. G. P. No. 476,926, filed December 23, 1922.

### Disinfectant

Organic substances, possessing antiseptic or disinfectant action intrinsically, are mixed with such quantities of sulphocyanides, that the disinfectant and antiseptic action of the substance is increased. Other suitable substances which are ordinarily used for the production of disinfectants may be added with the exclusion of the formation of formaldehyde-gelatin solutions containing sulphocyanides and cresol soap solutions. Dr. O. Gerngross, Berlin-Grunewald and Dr. K. Ruelke, Berlin-Charlottenburg, Germany. G. P. No. 476,992, filed June 28, 1924.

### Removing Bitter Principle of Cascara

This is accomplished by heating the finely powdered cascara sagrada bark with an aqueous solution of neutral sodium tartrate at a temperature of 95° to 98° C. for a period of several hours. The evaporated water is replaced during the process. Dr. M. Penschuck, Tilburg, Holland. G. P. No. 477,858, filed December 30, 1927.

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## Dear Drug Markets

*(Continued from page 125)*

up a bottle of Listerine and a Lilly Cup. Then when I'm on the carpet and the old boy gets too worked up, I can say, "Just a minute, Boss," and start gargling. If he's sold on the idea, as the ad says, I get time off while he cools off.

Anyway, we all went around to Dutch's and did some gargling ourselves.

DRUG SALESMAN.

**"If under the lash of extremists, harsh and restrictive measures are adopted toward scientific and industrial groups (using alcohol), we will witness a terrific blow to scientific and commercial progress . . . . "The crippling of our institutions, our medical arts and our commercial organizations . . . . is too big a price to pay for this extreme brand of prohibition."**—*Prohibition Commissioner James M. Doran in an address before the 24th annual convention of the Anti-Saloon League held at Detroit on Jan. 16—the tenth anniversary of Prohibition.*

## FOREIGN ABSTRACTS

### Removing Nicotine Stains

Old stains are removed by the three solutions as follows: The first solution contains five parts by weight of potassium permanganate and one hundred parts by weight of distilled water; the second contains five parts by weight of sodium hyposulphite and one hundred parts by weight of distilled water; the third is chemically pure hydrochloric acid (1.124 specific gravity). The spots are first cleansed so as to remove dirt and grease. They are then wetted with the first solution and then allowed to dry. Then they are treated with the second solution and allowed to dry again and finally painted over with the third solution. The brownish nictotine stain will be immediately removed by this treatment.

Fresh nicotine stains can be removed by means of the first solution described above and a second solution which contains two and one half parts by weight of potassium binoxalate dissolved in one hundred parts by weight of distilled water. The treatment is the same as above. Der Chemische Technische Fabrikant, 1929, page 140.

### Tincture of Quillaja

Experiments were carried out to determine the best way in which to prepare the tincture so that it contained the greatest proportion of saponin and which was most convenient for the preparation of coal tar saponin. The results from their experiments indicated that this could best be done with the aid of 70 per cent. alcohol. K. A. Karsmark and L. Kofler, Arch. Pharm. und Ber. d. Pharm. Ges. 1929, number 6.

### Gentianose from German Root

The following method is used for the preparation of gentianose from air-dried gentian root without the aid of fermentation. The method is one of rapid extraction of the air-dried gentian root powder which is rich in gentianose, that is containing about 24 grams of the gentianose per hundred grams of the root. It was found that in spite of the slight solubility of this sugar in 90 per cent. alcohol and its almost absolutely insolubility in 95 per cent. alcohol, they succeeded in dissolving about 95.75 per cent. of the gentianose present in the root in the first alcohol and about 36.5 per cent. in the second alcohol.

The experimenters were thus able to obtain by percolation in the cold supersaturated solutions of gentianose, which easily crystallize. Such solution of the gentianose, followed by crystallization, without change in the temperature, must be due to the presence in the root of a complex which is more soluble than gentianose itself, that is an unstable complex, which is decomposed when gentianose is separated out from the solution in the form of crystals. This process easily allows a yield of fifty grams per kilogram of gentian root powder. M. Bridel and M. Desmarest, Bulletin Societe Chimique Biolog., 1929, page 710.

## Drug Trade Largest Advertiser

Advertisers in the drug and toilet goods fields spent exactly $35,054,864 in national magazines in 1929, according to records prepared by the Denney Publishing Co., New York. These records show that the drug trade with this expenditure, again leads all other fields.

Next in line comes the foods and food beverages field with an expenditure in 1928 of $27,270,914 and an expenditure in 1929 of $27,186,860. The third in amount of expenditure is the automotive industry with $22,870,001 for 1928 and $26,343,157 for 1929.

The drug trade, however, spent $5,250,552 more in 1929 than in 1928, an increase of 17%, a larger increase than was reported for any other field.

The statistics above apply only to advertising appearing in publications of national circulation, the expenditures on other forms of advertising such as newspapers, car cards, posters, electrical advertising, window displays, direct mail, and sampling are not available.

A list of 150 leading magazine advertisers of 1929 has been compiled by the Denney Publishing Co., Inc. The figures for the drug trade listed below represent the amount spent by these advertisers in approximately a total of eighty-nine magazines. These publications include seventy-four monthlies, eleven weeklies and four semi-monthlies. These figures do not include the entire expenditures of these firms but only money spent in the leading magazines as mentioned above.

| | *1929* | *1928* |
|---|---|---|
| Lambert Phar. Co. | $2,863,240 | $1,806,460 |
| Col. Palm-Peet | 2,233,553 | 2,585,389 |
| Including: | | |
| Colgate | 1,024,156 | 1,111,035 |
| Palmolive | 1,209,397 | 1,073,134 |
| Pompeian | ..... | 401,220 |
| Bristol-Myers Co. | 1,631,874 | 1,092,409 |
| And. Jergens Co. | 1,160,134 | 914,240 |
| Lamont, Corliss | 1,121,034 | 928,471 |
| Including: | | |
| Lamont, Corliss | 12,550 | 13,515 |
| Pond's Extract | 1,108,484 | 914,956 |
| Lehn & Fink, Inc. | 1,118,568 | 1,069,603 |
| Including: | | |
| Dorothy Gray | 186,245 | ..... |
| A. S. Hinds | 345,099 | 392,877 |
| Lysol, Inc. | 410,499 | 348,080 |
| Pebeco, Inc. | 122,465 | 328,646 |
| Lesquendieu | 54,260 | ..... |
| E. R. Squibb | 888,980 | 796,015 |
| Including: | | |
| E. R. Squibb | 814,717 | 771,965 |
| Lentheric, Inc. | 73,930 | 24,050 |
| Kotex & Kleenex | 871,855 | 908,979 |
| Including: | | |
| Kotex Co. | 738,879 | 785,121 |
| Kleenex Co. | 132,976 | 123,858 |
| Pepsodent Co. | 787,368 | 856,557 |
| Northam Warren | 780,495 | 434,030 |
| Including: | | |
| Northam War | 416,680 | 360,080 |
| Elcaya Co. | 5,700 | 73,950 |
| Glazo Co. | 136,450 | ..... |
| Odorono Co. | 221,665 | ..... |
| Zonite Products | 774,959 | ..... |
| Including: | | |
| Zonite Prod. | 115,520 | 166,570 |
| Agmel Corp. | ..... | 1,890 |
| Forhan Co. | 615,189 | 546,324 |
| Larvex Corp. | 44,250 | 8,625 |
| Sterling Products | 759,239 | ..... |
| Including: | | |
| Sterling Prod. | 33,515 | 47,005 |
| Bayer Co. | 196,952 | 190,488 |
| Centaur Co. | 73,199 | 58,838 |
| California Fig Syrup | 21,952 | 16,857 |
| General Drug | 12,550 | ..... |
| Mum Mfg. | 129,489 | 112,535 |
| Chas. H. Phillips | 268,812 | 198,763 |
| Wells & Rich. | 28,770 | 152,695 |
| R. L. Watkins | 673,345 | 459,004 |
| Including: | | |
| R. L. Watkins | 521,183 | 343,698 |
| I. W. Lyons | 152,162 | 115,306 |
| Standard Oil Co.'s | 553,155 | 607,694 |
| Including: | | |
| Chesebrough | 232,877 | 263,405 |
| Nujol Lab. | 104,522 | 55,597 |
| Stanco, Inc. | 145,006 | 200,092 |
| S. O. of Calif. | 3,550 | 5,400 |
| S. O. of N. Y. | 67,200 | 83,200 |
| Gillette Saf. Raz. | 513,392 | 359,500 |
| Johnson & Johns. | 494,755 | 361,068 |
| Parke, Davis Co. | 471,206 | 151,117 |
| Elizabeth Arden | 337,470 | 309,337 |
| Houbigant, Inc. | 331,427 | 281,966 |
| Including: | | |
| Houbigant | 220,040 | 166,315 |
| Cheramy | 111,387 | 115,651 |
| Norwich Pharm. | 328,918 | 297,491 |
| Coty, Inc. | 310,130 | 356,794 |
| Mennen Co. | 283,106 | 411,041 |
| Pro-phy-lac-tic Brush | 261,925 | 305,404 |

## Industry's Books

**Tin, its Mining, Production, Technology, and Applications,** by C. L. Mantell, Ph.D., Pratt Institute, Brooklyn, N. Y. Cloth bound, 358 pages. Published by The Chemical Catalog Co., New York.

A most comprehensive work on tin treating ores and their refining from the viewpoint of the chemist; industrial application of tin also from the viewpoint of the chemist; tin alloys from the viewpoint of the physical metallurgist; and corrosion from the viewpoint of the chemical engineer.

Numerous charts showing the channels of tin consumption and prices over a period of years are given as well the specific-quality tin contract of the American Tin Trade Association.

The distribution of tin deposits throughout the world is carefully treated and the book is well illustrated with photographs and maps.

**To-morrow's Advertisers,** by George Harrison Phelps, president George Harrison Phelps, Inc. Cloth bound, 256 pages. Published by Harper & Brothers, New York.

A discussion of advertising trends with a picture of the possibilities of advertising control over manufacturers and retailers as revealed by broadening scope of the functions of the agencies.

**Hand-to-Mouth Buying,** by Leverett Lyon. Cloth bound, 487 pages. Published by The Bookings Institution, Washington, D. C.

An interpretation of the phrase hand-to-mouth in terms of both the business and economic issues involved. Those forces which are likely to determine the future of hand-to-mouth buying are clearly set forth. The trends in the various channels drug trade distribution are quite completely analyzed. This book was chosen by the Business Book League as the outstanding business book of December.

## Henry S. Wampole Dissolves

Henry S. Wampole Co. filed a petition January 25 in the Circuit Court of Baltimore, asking that the corporation be dissolved. The company was engaged in the manufacture of drugs in Baltimore. The petitioner states that the company was incorporated January 4, 1907, under the name of the Heineman-Evans Co., and that by an amendment, January 26, 1909, the name was changed to the Henry S. Wampole Co. of Baltimore. It is further stated that the company has no assets and no liabilities and there is no further reason for continuance of the petitioner as a corporation.

Judge Walter Dawkins signed an order requiring anyone interested to show cause by February 8 why the company should not be dissolved February 10.

## Belsterling Heads Philadelphia Exchange

The sixty-ninth annual meeting of the Philadelphia Drug Exchange was held in its quarters in the Bourse building, Phila. January 28, the following being elected: President John F. Belsterling, of Aschenbach & Miller, Inc.; vice-president, Harrison S. Hires, of the Charles E. Hires Company; secretary, Joseph W. England; treasurer, Albert L. Hilles, Jr., of Shoemaker & Busch, Inc.; directors, J. Mervin Rosenberger, Benjamin S. Thorp, H. K. Hineline, Walter P. Miller, Herbert R. McIlvaine, F. L. Bodman, Walter V. Smith, and Alexander C. Ferguson, Jr.

Herbert R. McIlvaine, of McIlvaine Brothers, Inc., in his presidential message, reviewed the events of the past year in the drug trade of Philadelphia and at large and predicated a promising future for business in the expected application of sounder thinking and harder work. Mr. McIlvaine also discussed market conditions in botanical drugs. He mentioned particularly the work of the government to assure the quality of ergot and said that Russian ergot, because of lower prices, had replaced the Spanish drug to a considerable extent.

## McKesson Earnings Placed at $5,000,000

McKesson & Robbins, Inc., according to estimates made by the Standard Statistics Co., had a net income of approximately $5,000,000 from its various combined companies in 1929. January 4, there was outstanding 420,635 shares of series A preferred stock, par $50, and 1,001,741 shares of no-par common. The corporation's 1929 earnings, are equivalent, therefore to $3.50 per share on the common stock.

Sales in 1929 are estimated at about $140,000,000.

Up to January 4, 17,500 retail druggists were reported to have signed contracts for McK & R service. The corporation had employees in its various units on that date of 5,800, of whom 700 were on the sales forces.

## John S. Bates Dies

John S. Bates, of Davis & Lawrence Co., Bronx, N. Y. died January 21 in Bronxville, N. Y. He was seventy-five years old and had been for twenty-five years treasurer and general manager for the Davis Co.

Mr. Bates was born in Monroe, Mich. in 1854, starting with the Davis & Lawrence Co. at the age of seventeen as an office boy. He became general manager and treasurer in 1895, and held that position until his retirement ten years ago.

The Bureau of Prohibition is planning a survey of the narcotic drug stocks of all Class II wholesale dealers, that is, those who resell only in the original stamped packages. The survey will be made at the request of the permanent central board on narcotics established by the Geneva convention of 1925, which is gathering these data from all countries.

## Doran Names Permittees

Dr. James M. Doran, Commissioner of Prohibition, states that the diversion of industrial alcohol for bootleg purposes during 1929 did not reach more than 3 per cent. of the total production and that the present diversion is not one-fourth that of three years ago.

Dr. Doran's statement was made in announcing that 52,405,000 gallons of completely denatured alcohol and 54,550,000 gallons of specially denatured alcohol were produced last year. He asserted there was no evidence of diversion to bootleg use of any appreciable quantity of the completely denatured product.

Dr. Doran also made public a list of 117 persons, firms and corporations, each of which consumed during the year more than 40,000 gallons of specially denatured alcohol, their total consumption exceeding 44,000,000 gallons, or more than 80 per cent of the entire output. The list, he stated, did not include several thousand small reputable manufacturers.

Dr. Doran said that the manufacturers he listed are nationally known and "no reasonable person will raise any question as to their integrity." The diversion problem centers principally in the production of lacquer thinners, solvents and low-grade toilet waters.

The larger permittees in the drug trade, extracted from the list of 117 manufacturers who consumed more than 80 per cent. of the output of specially denatured alcohol in 1929 were:

Abbott Laboratories, North Chicago, Ill.
American Druggist Syndicate, Long Island City, N. Y.
Cooper, Charles & Co., Inc., Newark
Cotex Corporation, Newark, N. J.
Dickinson, E. E., Co., Essex, Conn.
Dow Chemical Co., Midland, Mich.
Exchange Lemon Products Co., Corona, Cal.
Fitch, F. W. Co., Des Moines, Iowa
Fries & Fries Co., Cincinnati
Kirk, James S. & Co., Chicago
Lambert Pharmacal Co., St. Louis
Lilly, Eli & Co., Indianapolis
Lucky Tiger Remedy Co., Inc., Kansas City
Mallinckrodt Chemical Works, St. Louis
McKesson & Robbins, Inc., Bridgeport
Merck & Co., Inc., Philadelphia
Merrell, Wm. S. Co., Cincinnati
Mifflin Chemical Corp., Philadelphia
Monsanto Chemical Works, St. Louis
Norwich Pharmacal Co., The, Norwich, N. Y.
Parke, Davis & Co., Detroit
Pinaud, Inc., New York City
Sharp & Dohme, Baltimore
Squibb, E. R. & Son, New Jersey and Brooklyn
Stearns, Frederick & Co., Detroit
United Drug Co., Boston and St. Louis
Walgreen Co., Chicago
Wildroot Co., Inc., Buffalo
J. B. Williams Co., Glastonbury, Conn.

The Rite-Wate Corp., formed at Detroit, has acquired the Drug Products Corp. of Michigan, and the Medical Products Corp. through an exchange of stock. The new company has 200,000 no-par common shares and has been formed, it is said, to absorb several nationally known drug product organizations.

Dealers reports at present give only the number of packages bought and sold. The data sought are the total quantities of drugs of the various types. Hereafter this survey will be made as of June 30 and December 31 of each year.

## P. D. Opposes Sharp & Dohme Mark

The United States Court of Customs and Patent Appeals will decide the question as to whether the so-called "two-band" label for drug pharmaceutical products may be registered as a trademark in the United States Patent Office in the case of Sharp & Dohme, Inc., Baltimore, against Parke, Davis & Co., Detroit.

Sharp & Dohme sought to register as a trademark a label which Parke, Davis & Co. has opposed on the ground that the description of the label fitted its own label almost exactly. It was shown that the Detroit company had used such labels on some three hundred products since 1902, while Sharp & Dohme adopted the label in 1922. The registration was denied through successive stages in the Patent Office and Sharp & Dohme appealed.

Sharp & Dohme have contended that the two-band label has long been common to the entire drug trade and that Parke, Davis & Co., therefore, cannot claim any proprietary interest in it. Sharp & Dohme submitted to the court a large display of drug labels which showed that their outstanding characteristic was a horizontal colored band near the top and one near the bottom. Sharp & Dohme argued that there are sufficient minor differences to distinguish the two. Parke, Davis & Co. insisted that the differences are so slight that they would not be discovered except through careful comparison of both labels at the same time.

Parke, Davis & Co. declared that the "slavish copying of its mark" by Sharp & Dohme creates a suspicion that the applicant is endeavoring to profit by the good-will of Parke, Davis & Co.

## Vick Earns More

Vick Chemical Co. reports net income of $3,631,075 for the calendar year ended December 31, equivalent to $4.54 a share on the basis of present capitalization, compared with $2,786,692, or $3.48 a share, in 1928. The company's surplus as of December 31 was reported as $3,484,919, compared with $3,576,779 on the same date the year previous. In 1929 $2,000,000 from surplus was distributed to stockholders in the form of Vick Financial Corporation stock.

## Drug, Inc., Gives Owl Stock

Drug Inc., will pay 65,000 shares of its capital stock for the stock of the Owl Drug Co. Purchase of this latter concern was announced recently.

Accompanying the application filed with the New York Stock Exchange, and approved on a "when issued" basis, is a description of the Owl company, showing that it operates 106 retail drug stores, mostly in California, but also in Chicago, Milwaukee, St. Paul, Denver, Kansas City, Portland, Seattle and Spokane. The income account of the Owl company for the ten months ended Oct. 31, 1929, showed an earned surplus of $680,000 after dividends and all other charges.

## Block Buys Antikamnia

Sale of the Antikamnia Remedy Co., St. Louis to the Block Drug Co., New York, was announced by Thomas C. Hennings, vice president of the Mercantile-Commerce Bank & Trust Co. Mr. Hennings said the inventory value of the firm was in the neighborhood of $250,000, but Alexander Block, head of the purchasing company; declared the purchase price to be considerably in excess of that future.

Block said he has no immediate plan for the Antikamnia company, although efforts at expansion will be made. The plant probably will remain in St. Louis, he said.

## Neet Earnings Double

Neet, Inc., reports for the calendar year 1929 net profit of $368,653, after all expenses and Federal taxes, as compared with $174,698 for 1928. Last year's earnings were equivalent to $6.14 on the cumulative convertible Class A stock, or more than three and three-quarters times the annual dividend requirements of $1.60 a share. After providing for payment of Class A dividends, earnings were at the rate of $3.02 a share on the 90,000 shares of Class B stock outstanding.

## Lauds Narcotic Enforcement

The annual United States report on the drug situation was briefly dealt with on January 21 by the Opium Advisory Committee of the League of Nations. L. A. Lyall, British chairman of the Opium Central Board, paid a warm tribute to the vigorous enforcement of the narcotic laws by the American authorities.

He stated that the American treatment of offenders in a severe way does more than anything else to reduce the illicit traffic. Eight thousand, eight hundred and ten years, ten months and thirty-two days was the total of sentences imposed against traffickers in 1928 in the United States, and $255,927 was the total amount of fines imposed. These figures should be compared with the fines of "ten cents" imposed in the Dutch West Indies.

Zonite Products Corp. has purchased the modern plant owned by Reichardt Cocoa & Chocolate Co., New Brunswick, N. J. Zonite will take possession about April 1, and will employ about 250 people in the plant. The building is four stories in height, contains about 80,000 square feet, and is located on a plot of 12 acres.

Paul Edwards has been appointed sales manager of Golden Peacock Bleach Cream in the eastern and middle states with headquarters in Chicago, and Maurice Tyler has been appointed to the same position for the southern states.

Leland Chemical Co., formerly the Laundry Supply Co., will in the early future begin to market by house to house canvassing paradichlorbenzine in a novel form of practical glass dispensing bottles.

J. W. Felton, Jr. formerly connected with the Baltimore branch of Parke, Davis & Co., is now representing Magnus, Mabee & Reynard, Inc., New York, in the South Atlantic States.

Magnus, Mabee & Reynard, Inc., announce that Gorton Leech, well known in the Philadelphia drug and toilet preparations manufacturing trade, has taken the place of the late F. J. Ganter in covering that territory.

Paul Watkins, president, J. R. Watkins Co., Winona, Minn., started, late in January, upon a tour of the world. Most of his time will be spent in the large capitals of Europe, though he plans to do extensive travelling by water.

Apex Products Corp. is now installed in new and more extensive quarters, with many new facilities, at 1401 North Western ave., Chicago.

James S. Kirk & Co. are planning a new advertising campaign in which newspapers will be used. Details will soon be announced.

A. S. La Zoris, manager Chicago branch of Lanvoix Chemical Co., recently moved his office to 549 West Randolph st.

# Drug Industry Stocks

| 1930 Jan. 31st Bid | 1930 Jan. 31st Asked | 1930 High | 1930 Low | 1929 High | 1929 Low | ISSUES | Par $ | Shares Listed (000 Omit.) | Earnings per share An. Rate | Earnings per share $ | 1929 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | NEW YORK STOCK EXCHANGE | | | | | |
| 129¾ | 130½ | 131¾ | 117¼ | 184½ | 86 | American Can | 25 | 2,474 | $4.00 | † | 6.86 |
| 110 | 115 | 144 | 140½ | 145 | 133½ | pfd | 100 | 412 | 7.00 | † | 48.17 |
| 29⅛ | 29½ | 33 | 26⅝ | 55 | 20 | American Com'l Alcohol | No | 382 | 1.60 | * | 2.59 |
| 58 | 58⅞ | 59 | 55⅝ | 85⅝ | 40 | American Home Products | No | 611 | 4.20 | ‡ | 2.67 |
| 15⅞ | 16⅜ | 17 | 12 | 23⅛ | 12 | Container Corp. Class A | 20 | 279 | 1.20 | * | 1.23 |
| 5⅛ | 5⅞ | 6 | 4⅛ | 11⅛ | 3⅛ | Container Corp. Class B | No | 588 | ... | * | 0.14 |
| 30⅜ | 31 | 31 | 24¼ | 82⅛ | 20¼ | Coty, Inc | No | 1,493 | 2.00 | * | 2.46 |
| 79 | 80 | 80⅛ | 77 | 126¼ | 69 | Drug Incorporated | No | 26,677 | 4.00 | † | 3.10 |
| 55 | 55½ | 55⅝ | 52⅛ | 79⅛ | 40 | House Hold Products | No | 575 | 3.50 | ‡ | 2.64 |
| 102½ | 102⅞ | 104⅜ | 97 | 157⅛ | 80⅛ | Lambert Co | No | 699 | 8.20 | * | 7.79 |
| 33⅜ | 34 | 34 | 29⅞ | 68⅛ | 28 | Lehn & Fink | No | 419 | 3.20 | ‡ | 2.20 |
| 33⅛ | 33⅜ | 35 | 32 | 59 | 21⅛ | McKesson & Robbins, Com | No | 1,001 | 2.00 | ‡ | 1.50 |
| 45 | 46 | 46⅞ | 44½ | 63 | 40 | pfd | 50 | 421 | 3.50 | ‡ | 5.13 |
| 59⅜ | 59¾ | 60 | 49 | 80½ | 47 | Monsanto Chemical Co | No | 398 | 1.25 | * | 4.44 |
| 54⅛ | 55 | 55⅛ | 52⅛ | 89⅛ | 43 | Owens-Illinois Glass Co | 25 | 827 | ... | * | 4.04 |
| 51⅛ | 53 | 46 | 52⅝ | 82¼ | 35 | Prophylactic Brush | No | 100 | 2.00 | ‡ | 2.25 |
| ... | ... | ... | ... | ... | ... | Rossville Com'l Alcohol Corp | ... | ... | ... | .. | ... |
| 17 | 18 | 18 | 17 | 22 | 16¾ | Sharp & Dohme, pfd | No | 777 | ... | a | 0.88 |
| 115¼ | 115½ | 139⅜ | 110¼ | 243⅜ | 95 | U. S. Ind. Alc | No | 373 | 6.00 | ‡ | 5.30 |
| ... | ... | ... | ... | ... | ... | pfd | ... | ... | ... | .. | ... |
| 4⅛ | 4⅜ | 5⅛ | 4 | 13½ | 3 | Vadsco Sales | No | 971 | ... | *c | 0.86 |
| 39 | 40⅛ | 41⅛ | 37½ | 109 | 33 | Vick Chemical Co | No | 800 | 2.50 | d | 4.63 |
| | | | | | | NEW YORK CURB | | | | | |
| ⅛ | ⅞ | ⅞ | ⅜ | 7⅛ | ⅛ | Allison Drug Stores Class A | No | 70 | ... | e | ... |
| ⅛ | ⅞ | ⅞ | ⅜ | 5⅛ | ⅛ | Allison Drug Stores Class B | No | 95 | ... | e | ... |
| 10⅛ | 12 | 12 | 10 | 37 | 10⅛ | Amer. Sol. & Chem. Corp. VTC | No | 181 | ... | † | 1.83 |
| 27 | 28¼ | 27 | 24⅞ | 42⅛ | 25½ | Con. Partic pfd | No | 113 | 3.00 | † | 5.93 |
| 158 | 163 | 166½ | 155 | 210 | 130 | Ches. Mfg. Co | 25 | 120 | 4.20 | † | 8.49 |
| 52⅜ | 54 | 53⅜ | 52 | 90 | 40 | Colgate-Palmolive-Peet Com | No | 2,000 | 2.50 | b | 1.53 |
| ... | ... | ... | ... | 99¾ | 96 | pfd | 100 | 137 | 6.00 | b | 23.81 |
| 2¼ | 2⅞ | 3 | 2 | 57⅛ | 2 | Davis Drug Stores Allot. Ctfs | ... | 115 | ... | ... | ... |
| 11⅜ | 12 | 14⅞ | 10¼ | 34⅝ | 10 | General Ind. Alcohol VTC | No | ... | ... | f | ... |
| 5⅛ | 5⅜ | 6⅜ | 5 | 26⅛ | 3¼ | Helena Rubenstein | No | 280 | ... | ‡ | 1.13 |
| 22¼ | 22⅜ | 23 | 21⅜ | 41⅛ | 17⅜ | Heyden Chemical Corp | ... | 150 | ... | † | 2.02 |
| 7 | 9¼ | ... | ... | 24⅞ | 6¼ | International Perfume Com | No | 392 | 1.00 | g | 1.02 |
| ... | ... | ... | ... | ... | ... | $6 Cum. Pfd | No | 61 | 2.75 | g | 8.81 |
| ... | ... | ... | ... | ... | ... | May Drug Stores | ... | ... | ... | ... | ... |
| 55 | 59 | 58 | 58 | 67¾ | 40 | Mead-Johnson | No | 165 | 3.00 | ‡ | 3.30 |
| 1¼ | 1½ | ... | ... | 12 | 1¼ | Nauheim Pharmacies Com | No | 97 | ... | * | Nil |
| ... | ... | ... | ... | 32¾ | 2 | pfd | No | 45 | ... | * | 0.71 |
| 1¾ | 2 | 1¾ | 1¾ | 13 | 2 | Neve Drug Stores, Com | No | 170 | ... | h | ... |
| 28 | 29 | 28⅛ | 24 | 52 | 21¼ | Newport Co., Com | No | 405 | 2.00 | * | 2.18 |
| 32 | 33 | ... | ... | 46¾ | 29¼ | Northam Warren Corp. Pfd | No | 50 | 3.00 | g | 10.35 |
| 40 | 41 | 42½ | 40 | 58¼ | 40¼ | Parke Davis & Co | No | 4,770 | 1.00 | † | 1.73 |
| 48½ | 49 | 48¾ | 45⅜ | 94 | 45 | Peoples Drug Store | No | 123 | 1.00 | † | 4.75 |
| ... | ... | ... | ... | ... | ... | Sharp & Dohme, Com | ... | ... | ... | ... | ... |
| 10⅜ | 11 | 10⅜ | 10 | 24 | 10¼ | Stein Cosmetics, Com | No | 60 | ... | i | ... |
| 8⅛ | 8⅞ | 9¼ | 8 | 18 | 6⅜ | Vick Financial Corp | 10 | 750 | ... | j | ... |
| 59 | 59¾ | 61 | 54 | 107¼ | 35¼ | Walgreen Co., Com | No | 834 | ... | ‡ | 1.63 |
| 18½ | 19½ | 20¼ | 18⅜ | 44⅛ | 13 | Zonite Products Corp | No | 176 | 1.60 | * | 1.31 |
| | | | | | | CLEVELAND | | | | | |
| 7› | 4½ | 75 | 73 | 80 | 60 | Dow Chem. Co | ... | ... | ... | .. | ... |
| ... | ... | ... | ... | ... | ... | pfd | ... | ... | ... | .. | ... |
| 23¾ | 24 | 25 | 23¾ | 42 | 20 | Miller Wholesale Drug Com | ... | ... | ... | .. | ... |
| 33 | 33¼ | 35 | 31⅛ | 51 | 24 | Weinberger Drug Com | ... | ... | ... | .. | ... |
| | | | | | | CHICAGO | | | | | |
| 37¼ | 37½ | 37½ | 35 | 52 | 36 | Abbott Laboratories | No | 120 | 2.00 | † | 3.86 |
| 36 | 37 | 38 | 36 | 73 | 28¾ | Katz Drug Co., Com | ... | ... | ... | .. | ... |
| 5¼ | 6 | 6 | 5 | 29¼ | 2 | Lane Drug Co., Com VTC | No | 95 | ... | g | 0.92 |
| 15 | 15 | 15 | 14½ | 32 | 14 | Cum. pfd | No | 65 | 2.00 | g | 3.00 |
| | | | | | | CINCINNATI | | | | | |
| 16 | 16½ | 18 | 15 | 41½ | 16 | Dow Drug Co | ... | ... | ... | .. | ... |
| 105 | 105 | ... | ... | 125 | 102 | pfd | ... | ... | ... | .. | ... |
| ... | ... | ... | ... | ... | ... | Standard Drug A' | ... | ... | ... | .. | ... |
| | | | | | | BALTIMORE | | | | | |
| 31 | 32 | 33 | 30 | 39¾ | 25 | Emerson's Bromo Seltzer | ... | ... | ... | .. | ... |
| | | | | | | UNLISTED | | | | | |
| ... | ... | .. | . | ... | ... | ... | Heyden Chemical Corp. pfd | ... | ... | .. | ... |
| ... | ... | ... | ... | ... | ... | Merck pfd | ... | ... | ... | .. | ... |
| ... | ... | ... | ... | ... | ... | Noxzema Chem. Co | ... | ... | ... | .. | ... |
| ... | ... | ... | ... | ... | ... | Squibb Com | ... | ... | ... | .. | ... |
| ... | ... | ... | ... | ... | ... | pfd | ... | ... | ... | .. | ... |

† Yr. Dec. 31, '28.
* 9 mos. Sp. 30, '29.
‡ 6 mo Je. 30, '29.
a 8 mos. Au. 31, '29.
b 3 mos. Sp. 30, '29
c Before Fed. Tax.
d Yr. Je. 30, '29.
e None Reported.
f Incorporated in April, 1929
g 10 mos. Oct. 31, '29.
h Controlled by United Cigar Stores.
i Incorporated in Dec., 1928.
j Affil. with Vick Chem. Co.

Special meeting of Pro-phy-lac-tic Brush Co. was held Feb. 19 to approve a reorganization with Lambert Co. The agreement was to transfer certain cash and miscellaneous assets of Pro-phy-lac-tic to a Delaware corporation, in exchange for capital stock, viz., 10,000 shares of no par common, and assumption of certain liabilities, and distribution of above stock among holders of Pro-phy-lac-tic common.

## Drug Stocks Up

Prices of common stocks of drug and cosmetics' companies advanced in the week ending Feb. 6, to 173.8, the highest point reached since the week ended Dec. 5, 1929. The index of the Standard Statistics Co. of New York, shows drug stocks as a whole still continuing to hold up bettern than the general list of industrials Detailed figures on the drug index and the index for 338 industrials follow:—

| | *1926 equals 100* Drugs and Cosmetics | 338 Industrials |
|---|---|---|
| *1930* | | |
| Jan. 2 | 168.4 | 146.0 |
| 9 | 172.7 | 148.4 |
| 16 | 173.6 | 146.8 |
| 23 | 169.7 | 149.2 |
| 30 | 172.1 | 153.6 |
| Feb. 6 | 173.8 | 156.9 |
| 1930 High | 173.8 | 156.9 |
| Low | 168.4 | 146.0 |
| 1929 High | 260.6 | 218.9 |
| Low | 158.8 | 134.5 |

## U. S. Alcohol Gains

U. S. Industrial Alcohol Co. reports for the six months ended Dec. 31, 1929, net profit of $3,024,806 after depreciation and Federal taxes, equivalent to $8.09 a share on 373,846 shares of no par stock. This compares with $2,589,697 in the corresponding six months of 1928, equal after preferred dividends to $7,43 a share on 320,000 shares of common stock. The preferred stock is now all retired. The statement for the year ended Dec. 31, 1929 compiled from the company's semi-annual reports, shows net profit of $4,720,857 after above charges, equal to $12,63 a share on 373,846 shares of stock, comparing with $3,777,801, or $10.29 a share on 320,000 common shares outstanding at the end of 1928 after preferred dividend requirements.

## Walgreen Up 25%

Walgreen Co. net profit for 1929 totalled $3,130,465 as compared with $2,752,424 for 1928. Net sales amounted to $46,622, 639 against $31,389,313. Total current assets of the company were $8,787,634 as of December 31 and current liabilities were $2,862,629.

Marcel Guerlain Co., Inc., of Fifth ave., New York City, a subsidiary organization of Parfums Guerlain of Paris, London, and Berlin have rented their twelfth store at 169 Market st., Newark, N. J. at an aggregate rental of about $250,000.

# Cosmetic Clay

**Although the price is higher, many cosmetic manufacturers are using the colloidal product produced by electro-osmosis. The methods of manufacture together with its advantages and proper use are described by an eminent English writer who is recognized as a world authority on perfumes and cosmetics.**

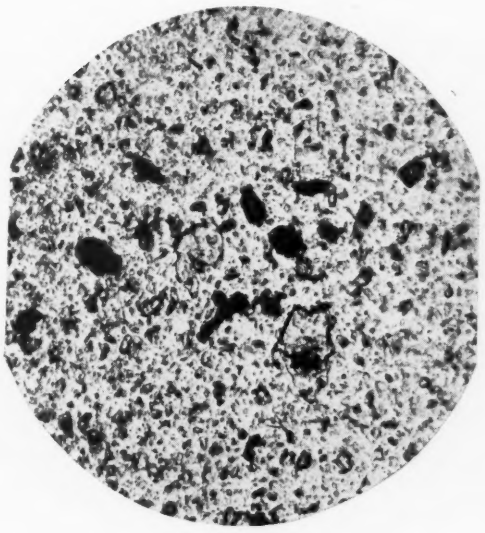
KAOLIN produced by the principle of electro-osmosis is to many manufacturers just ordinary china clay. There are several cosmetic manufacturers, however, that have taken the trouble to investigate carefully the qualities of this particular variety and compare it, in their finished products, with other kinds. In the majority of cases, and in spite of the higher price of this osmosis variety, they have decided to use it, and in fact have adopted it in all formulae containing kaolin.

But better to understand just what this particular type of kaolin is, let me start by asking and answering the questions that would naturally arise in the minds of users.

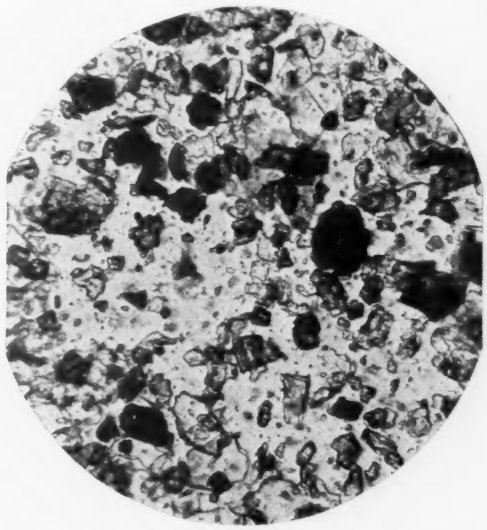
In the first place, what is china clay ?

Many different grades are found in various parts of the world, but the finest qualities occur in England and particularly in Cornwall where it appears to be produced mainly by the disintegration of the rock known as pegmatite—a kind of granite. It is here mined on a large scale and is much used in making pottery and stoneware. For many years, the various grades of china clay have been separated by elutriation. This is a tedious process and depends upon the sedimentation of the heavier and coarser particles after the clay has been levigated with water and by gravity run through a series of troughs, the last ones retaining the finer and lighter particles. The latter deposit is in due course dried and powdered and in this condition enters the laboratories of many cosmeticians. Chemically Kaolin is $A_2 1_3 0\ 2Si0_2\ 2H_2 0$, a substance which is insoluble in water and occurs in the colloidal state as well as in minute crystals. It is now known that the commoner process of elutriation briefly described above can be hastened by electrical means.

What are the principles of electro-osmosis ? In the first place a *colloid* may be defined as matter in so fine a state of division that it tends to remain in suspension for a long time in the "disperse phase" without coalescing. When the colloidal particles retain



No. 1



No. 2

an electrical charge, the suspension is maintained since the particles have a charge of the same sign and consequently tend to repel each other and to prevent coalescence. Coalescence can be produced by adding a colloid of opposite charge or by subjecting the suspension to an electrical field. In the first case the two sets of colloidal particles discharge each other and the mixed colloids are precipitated. In the second case the particles carrying the charge are attracted to the opposite pole, when they are "discharged" and adhere to the electrode.

For the production of perfectly pure colloidal material the first method is impossible since an extraneous material would have to be introduced, and consequently the second method of electro-osmosis, or cataphoresis, is employed.

How is the industrial application of this process carried out with china clay ?

In the first place only the finest raw material prepared as described above by elutriation is employed:—see micro-photograph No. 1. This clay has already been carefully and repeatedly washed and the coarse impurities removed by settlement. If this clay is brought into a state of colloidal suspension however, it is found that as the clay aggregates disperse, minute crystals of Silica and Mica separate. They have hitherto been held in suspension by the clay which has not been fully dispersed and has consequently enclosed these smaller impurities in its aggregates. The required dispersion is brought about by working up the clay in water and adding traces of an alkaline electrolyte which produces the required suspension. The clay is now said to be "peptised" and each particle tends to repel its neighbor so that the whole becomes more fluid. A mixture of 50 per cent. water and 50 per cent. china clay with a suitable electrolyte becomes quite fluid whereas the same mixture without the electrolyte would be only a wet paste.

The conditions are now favorable for the almost complete separation of the colloidal clay from both the crystalline impurities and from any coarse clay that does not readily disperse, as the colloidal clay will remain in suspension for many days while the fine gritty impurities of mica, quartz and other traces of crystalline material will have ample time to settle:—see micro-photograph No. 2.

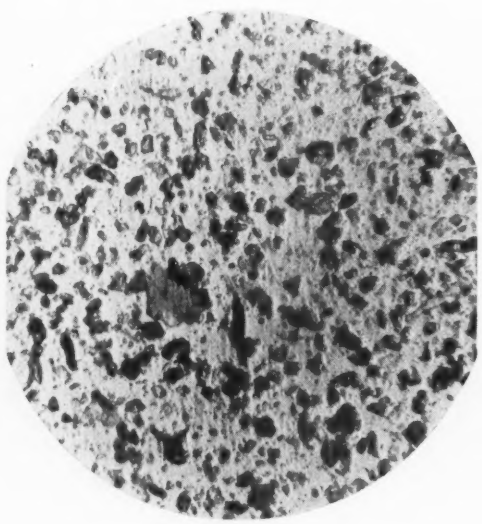
When this settling process is complete and only the finest colloidal clay remains in suspension, the suspended clay is coalesced as indicated above by subjecting it to an electric field. The upper suspension is drawn off and passed into the electro-osmosis machine. Here it is made to flow between two electrodes submerged in the liquor. The clay with its negative or minus charge is attracted to the positive pole (+ anode) which consists of a revolving drum where it is "discharged" and held on the drum in a semi-dry condition to be removed by a scraper. The negative pole (— cathode) consists of a metal grid concentric to the anode. The clay particles are of course repelled from the neighborhood of the cathode while the water and alkali previously used as an electrolyte are attracted to it and washed away by the stream to an effluent pipe. The last trace of the impurities are removed in this way since they are either drawn to the cathode or washed away in the stream of water flowing to it:—see micro-photograph No. 3.

Why is electro-osmosis the finest purifier for kaolin?

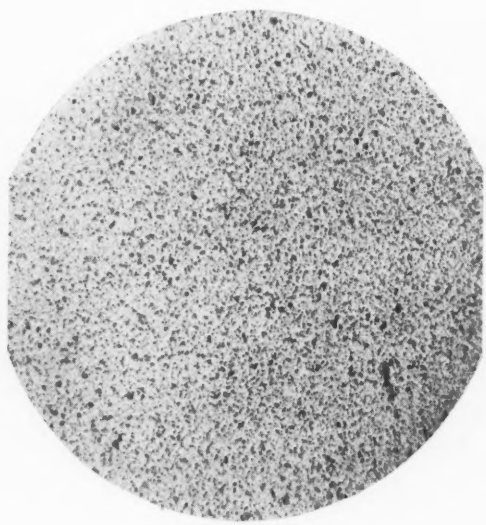
1. Because it makes possible the coalescence of the dispersed particles without the addition of any other precipitating agent.

2. Because it finally rejects those impurities which owing to their extreme fineness cannot be separated by elutriation (settlement) however prolonged.

3. Because it absolutely removes all traces of alkaline electrolyte used in the earlier stages. The importance of this need not be stressed since the presence of free alkali, otherwise unavoidable would render



No. 3



No. 4

kaolin quite unsuitable for either toilet or medicinal purposes.

What other factors go to the making of Osmo Kaolin ?

The above is an outline only of the general process. All necessary precautions are taken to avoid any possible contamination of the product throughout the process. The final drying is scientifically controlled in order to retain unimpaired the special physical characteristics imparted to the osmosis variety by the fact that it is collected electrically particle by particle.

What are the distinctive properties of osmosis kaolin ?

1. It is pure kaolin approximative to the theoretical formula $Al_2O_3$ $2S_2O_2$ $2H_2O$.

2. It is absolutely freed from the fine gritty impurities associated with china clays prepared by elutriation.

3. It is entirely free from added alkali, since this is definitely and completely removed by the electric current, and there is no other way of removing it.

4. It is not contaminated by the addition of other colloids or salts used to precipitate it.

5. It is uniform—its fineness being due to electrical precipitation and not to fine grinding. The particles are of the order of 1/20,000 part of an inch in diameter, and thus a vastly greater total surface area is available from a given weight of osmosis kaolin than from ordinary China clay.

6. Its extreme fineness gives it a maximum absorption surface and at the same time imparts a lightness (bulk) and texture to the powder which cannot be obtained by any other means.

See micro-photograph No. 4.

How can colloidal character and absorptive power be demonstrated ?

By the following test—Take 25c.c.s of a 0.25 per cent. aqueous solution of methylene blue and mix it with 5 grammes of kaolin, allowing it to stand aside for 5 minutes. Now filter the mixture and it will yield a colorless filtrate.

While it will be quite obvious from a glance at the micro-photographs that osmosis kaolin has a remarkably fine texture this can further be demonstrated by rubbing a little into the skin. This test will in addition show how very *adherent* the product is, and this quality is one demanded by those raw materials which go to make a successful face powder.

China clays vary in color from a deep cream to the palest of creamy whites. Osmosis kaolin comes within the latter category and while it cannot be said to be snow white, it is nevertheless sufficiently near to enable it to be used successfully in all shades of toilet powders.

One of the most important uses for osmosis kaolin then is as a raw material for face powders. It is generally acknowledged that the first sale of a powder is attributed to its intriguing odor, but this alone will not bring repeats. It is the appearance and finish given to the skin by the powder which induces most women to use one particular make. This quality may best be described as *texture* (ladies are apt to describe it as "fineness") and is influenced by the following conditions:—

1. The powder must have good covering power and so hide slight skin blemishes.

2. It must adhere perfectly to the skin and not blow off easily while motoring.

3. It must not be completely dissipated in a few minutes and so make re-powdering continually necessary.

4. The finish given to the skin must be matt or peach-like.

5. Shine on and around the nose must be completely eliminated. The powder must be absorbent.

6. There must be sufficient "slip" to enable the powder to be spread on the skin by the puff without producing a blotchy effect.

7. The constituents of the powder must be such that a clownlike effect is impossible. The preference should be rather towards transparence.

These characteristics make a great demand upon any cosmetic material. The above characters in osmosis Kaolin are enhanced by the following additions:—

1. Zinc Oxide and Carbonate; Titanium Dioxide; Barium Sulphate.
2. Magnesium & Zinc Stearates.
3. A minimum percentage of Talc.
4. Rice Starch
5. Light Magnesium Carbonate and Rice Starch.
6. Talc.
7. Avoid Potato Starch.

Some further reference to No. 5 seems desirable here. From the fact that the particles of osmosis kaolin approximate in size those of bacteria, it will be obvious that any given area dusted with this substance has a maximum number of individual particles to that area, and the evaporation surface will thus be increased to its greatest extent. Now the shiny nose is due to the fact that perspiration is oozing from the pores at a relatively greater rate than it is evaporating from the skin surface. It therefore naturally follows that with the increase of the evaporation surface there is automatically a reduction in the amount of unevaporated perspiration left on the nose. It will thus become obvious that the greater percentage of osmosis kaolin in a finished face powder, the more successful will be the powder for eliminating the shiny nose.

With a view to helping the experimenter the following are two suggested formulae for good and up-to-date face powders. Any perfume may be used, and from a large number of experiments carried out on behalf of manufacturers, I can affirm that the perfume in no way deteriorates when in contact with osmosis kaolin.

*No. 1. Transparent, Medium Light and Fluffy*

450 grams osmosis kaolin
100 " Zinc Oxide B. P. quality
150 " Rice Starch
70 " Light Magnesium Carbonate
180 " Talcum finest white
50 " Magnesium Stearate
20 ccs Compounded Perfume
10 ccs Heliotrope for Powders

1000 grams Color as desired

*No. 2. Heavier and more suitable for evening use*

300 grams osmosis kaolin
300 " Titanium Dioxide
230 " Talc
100 " Magnesium Carbonate Light
70 " Magnesium Stearate
30 ccs Compounded Perfume
20 " Heliotrope for Powders

1000 grams Color as desired

Mix and sift through 120 mesh silk

These powders will yield bright tints of color when suitably treated with pigments or spirit soluble harmless dyestuffs.

Face powders by no means exhaust the finished cosmetics in which osmosis kaolin may be successfully used. Liquid powders are another example, and although these products have a limited sale, being used principally by the ultra smart society woman, there is nevertheless an outlet amongst the theatrical profession where "wet white" has an extensive application for the neck, arms, hands and (amongst dancers) legs. Similar products are employed by ladies for these parts of the anatomy for evening wear, dances, etc. Osmosis kaolin functions admirably in all such toilet preparations. An example of its use is given:—

*Liquid Powder de Luxe*

150 grams Zinc Dioxide
100 " osmosis kaolin
50 ccs Glycerin
100 " Alcohol 60%
30 " Compounded Perfume
10 " Heliotrope for Powders
900 " Distilled Water

1000 approximately by volume
Color as desired

A point which must not be lost sight of in the production of liquid powders is that after shaking the solid constiuents should not immediately sink to the bottom of the bottle, otherwise repeated shaking becomes necessary. Owing to the lightness of osmosis kaolin it acts as a suspending agent for the other heavier ingredients.

In sunburn preparations osmosis kaolin finds another use. In the above formula osmosis calamine should replace the first two ingredients when an excellent preparation results.

In the manufacture of rouges, a vehicle must be used for the carmine and oxides of iron commonly employed and here again osmosis kaolin functions admirably. There are to-day numerous shades of rouge demanded and while this brochure does not pretend to be a complete treatise on cosmetics a formula is nevertheless appended which will make an excellent natural shade, and from it modifications can be made by substituting other pigments:—

5 grams Carmine No. 40
10 " Venetian Red
15 " Zinc Oxide
15 " Talc
100 " osmosis kaolin
5 ccs Perfume as desired

150 grams

The pigments should be first triturated with the zinc oxide and the other ingredients then added. Sift twice through 120 mesh silk.

In the preparation of dental creams the high absorption value of osmosis kaolin may be made use of, especially since the finished paste must remain soft under varying conditions of temperature. The experimenter will find ample scope in the following directions:—

100 grams osmosis kaolin
200 " Precipitated Chalk
100 " Powdered Castile Soap
20 ccs Flavor

a sufficiency of glycerine and water to make a smooth paste.

Finally, the unctuous nature of osmosis kaolin makes it an excellent addition to fine milled toilet soap where the latter is required to have exceptionally creamy qualities. A five per cent. addition cannot be regarded strictly as a "filling" and it will give the finished cake of soap a very fine texture.

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Mint growers of Northern Indiana and Southern Michigan met Feb. 6 to form an organization designed to control the output of peppermint oil. These producers control approximately 90 per cent. of the production of this country. F. F. Friblee, of Starke County, Ind., was elected temporary chairman to preside at the meeting.

Bourjois, Inc. is the new name of the International Perfume Co. In a special meeting January 16, stockholders approved the change. The International Perfume Co. was formed about a year ago by the consolidation of Bourjois, Inc., and Woodworth, Inc., perfumery houses, this city.

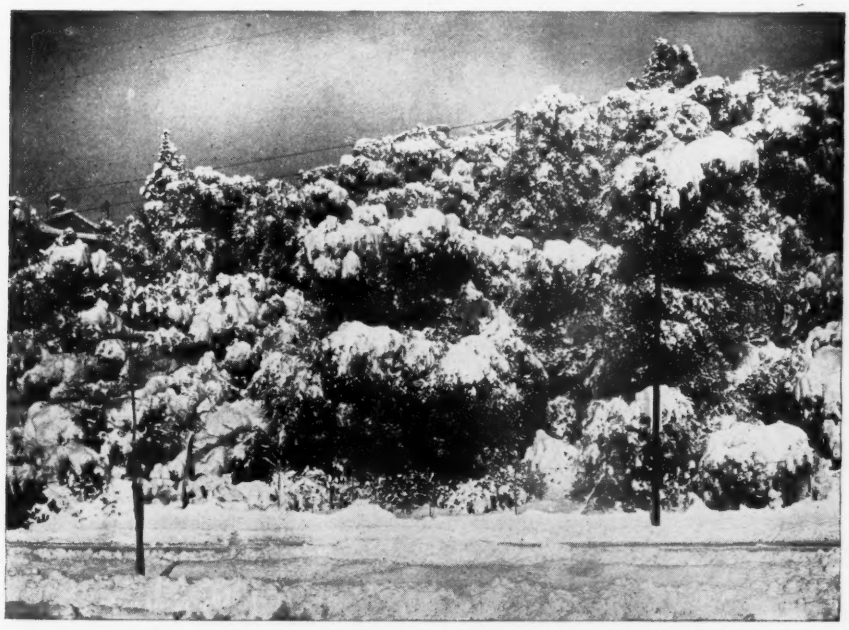
R. Webb has been elected treasurer of W. J. Bush & Co., essential oil dealer, New York. He succeeds the late Charles Blair Leighton.

# Grasse Orange Flowers

EVERYONE in the trade recalls the damage done during the winter months of 1928-29 by the cold and snow in the Grasse region. No culture suffered more, perhaps, than the orange tree, and in many instances plantations which had been in existence for years were practically destroyed. The greatest amount of damage was noticed directly after the exceptionally cold nights of February 12 and 13, 1929, when the temperature fell to 11 and 12° below zero, Centigrade, which means about 10 to 12° above zero, Fahrenheit. Just what occurred during these two nights can be imagined when it is borne in mind that the orange tree grown in the Grasse district is said to die when subjected to a temperature of 7 to 8° below zero, Centigrade, or 18 to 19° above zero, Fahrenheit. Even when the thermometer registers 4 to 5° below zero Centigrade, or 23 to 25° above zero, Fahrenheit, serious damage to the trees is looked for, particularly if the temperature remains there for several days. Of course, there are no fixed rules with regard to what an orange tree will stand in the way of cold, as, naturally, a tree that is protected in some way will support much more than one that is not. Usually, however, a tree loaded with fruit is in most danger, as it is then rich in water content. This situation rarely, if ever, obtains in the Grasse region, as the trees there are, as a rule, liable to the cold quite some time before they are in bloom, or before the fruit appears. One of the dangers the grower always hopes to avoid is that of prolonged drought, followed by September rains, as this tends to awaken the orange tree and bring into being tender

shoots which are very sensitive to the cold. This is what occurred on the 2nd of January, 1905, a date which every orange tree grower either remembers, or has been told of.

The effect of the cold of last winter, naturally, resulted in a yield of orange flowers that was practically nil. This has resulted in a depletion of the neroli stocks, and a consequent rise in price, as pointed out in our market report from Grasse for January and February. All in the trade are eager, therefore, to see this season's yield bring about an easier situation all



Orange trees near Grasse covered with snow.

# Redistilled Peppermint Oil

THE mere fact that an oil is labeled Oil Peppermint Redistilled U. S. P. and meets the pharmaceutical requirements in every respect is not all that the buyer is entitled to demand and the discriminating manufacturer recognizes that there may be wide variations of purity, quality and flavor between U. S. P. oils from different sources.

Ungerer Redistilled Peppermint Oil represents pure, selected natural oil carefully rectified under the best conditions and its appeal to the user lies in its purity and in the quality of its flavor, not merely on the relatively incidental fact that it is U. S. P.

*"Our Quality Is Always*
*Higher Than Our Price"*

**UNGERER & CO.**
**NEW YORK**

the way around. Not only neroli, but all orange flower and orange tree products were severely hit, so that exceedingly close attention is being given the orange trees, in order to prevent as much damage as possible if another cold spell were to visit the region this year.

In taking up the cultivation of the orange tree in the Grasse district, only the so-called bitter orange tree, or *Citrus bigaradia*, will be considered, as the *Citrus aurantium*, or sweet orange tree, does not play a very important part, comparatively, in the activities of the distilling perfumers. The bigarade orange tree supplies the distilling perfumer with products extracted from the flowers, the branches and the rind of the fruit. By distilling the flower neroli is secured, and which, as everyone in the trade knows, serves as the base for all eaux de Cologne of quality.

The orange tree grown for its flowers, or bigarade, is cultivated in the districts of southern France bordering on the Mediterranean, and particularly in the department known as Alpes-Maritimes, which comprises as principal centers of production: Golfe-Juan, Vallauris, Le Bar-sur-Loup, Saint Laurent du Var, as well as the Nice region, including St. Jeannet, Gattieres, Le Cannet, Grasse and vicinity. Other places where the orange tree is cultivated are Mougins, Biot, Vence, and Antibes.

Approximately 4,000 growers are cultivating the orange tree in the south of France. Among the varieties grown are the wild, producing flowers of very high perfume content, but not in abundant quantities; the little thorn, the flowers of which are very rich in oil; the so-called *Bigaradier riche dépouille*, producing a flower of average size, very numerous, and growing in bouquets at the end of the branches (grown in the southern part of France, Italy, Spain, and particularly in Algeria, near Boufarik). In fact, it is this last-named variety which is grown almost exclusively in the Alpes-Maritimes department. In addition to the foregoing are the orange flowers with a large calyx, large and of a beautiful white; the corniculate bigarade, with large flowers, grouped by two axillaries and terminals.

The *chinois* (Citrus Sinensis, Risso) is a Chinese bigarade, with myrtle-like flowers, grafted onto the ordinary bigarade. It is also called the *little chinois*, and in Italy it is known as chinotto, chinetto. This tree produces the small bitter orange used by the confectioner. The *Kumquat* (Citrus Japonica) is a very close relation of the bigarade, the fruits of which are used in about the same way as those of the *chinois*.

By the distilling perfumer the orange flower is used to secure the oil of neroli, and orange-flower water. From the branches and leaves are extracted what is known as petit-grain, and from the fruit what is called the zest of orange.

The bigarade is at home in practically all soil, although it must be said that a soil too calcareous or too argillaceous will not give the best results. Above all one must choose a place well protected against the winds, and permitting of much sunshine.

During the cold spell of last year the Bar-sur-Loup section was spared because of its fine location, protected as it is from the cold winds and other adverse influences. In other words, the orange trees in this district suffered much less than those of other sections. The yield was, of course, way below that of normal years, but, comparatively, the loss suffered was small.

**Gathering orange flowers in the Grasse district.**

Like most trees, the bigarade is secured from seedlings, grafting, cutting and layering. Grafting is practised as soon as the plants permit, which is, generally, the second year. The establishment of a plantation is, as a rule, undertaken during the months of March and April, and the distance between trees varies, depending upon the nature of the ground. Usually, however, it is figured on the basis of four meters X four meters, although at times the trees are planted according to the arrangement known as quincunx, with four trees at corners of the square or rectangle, and the other at its center, making five trees in all. This type of plantation, even though it is a bit cramped, is adopted by many growers in order to bring about a yield in the shortest possible time. In this connection, it is interesting to note that it requires about seven to eight years of growth before the orange tree arrives at a remunerative period of production.

In the Alpes-Maritimes department the care given the orange trees is almost exclusively done by hand. Orange tree plantations are established either on ground permitting irrigation, or on that which cannot be irrigated, although most of the trees in the south of France are to be found on the latter type of ground. In order to meet the dryness in such cases, the soil around the trees is turned up from time to time.

The orange tree is attacked by a number of insects that cause a very great deal of damage if not carefully watched. The most dangerous of these are the *Chrysomphalus*, or *Aspidiotus Adonidum*, resembling what is known in America as Red Scale; the white cochineal, or *Dactylopius* and *Pseudococcus Citri*; the *Mytilaspis Citricola*, or comma-shaped louse; the *Diaspis Pentagona*. To successfully fight off the ravages of these insects has kept, and is still keeping, the scientists of France busy. Among the methods used are those of liming during the winter, and the use, during the summer months, of various powder insecticides. Hydrocyanic, or prussic, acid has been very successfully used for a number of years in the Golfe-Juan and Saint Laurent du Var districts. In fact, it is felt by those vitally interested in the question that this method, if more widely used, would serve to lessen the ravages of the insects very much. Unfortunately, however, it is very costly, this factor preventing many from employing it.

Due to the damage done by the cold and snow of last winter, many of the growers have become discouraged, and just what the result would be in case of another such a winter is not a difficult guess. The age of a tree, its location, disposition, and so on, have a great deal to do with its resistance to the cold, and the effects of last winter's visit is being carefully studied, in order to discover ways and means to save the greatest number of trees.

The total production from the orange trees in the Alpes Maritimes department was, before the winter of 1928-29, 2,500,000 kilograms. Figures for the various sections were as follows: Golfe-Juan, Vallauris, 900,000 kilograms; Saint Laurent du Var and Nice, 350,000 kilograms; Le Cannet and vicinity, 250,000 kilograms; Bar-sur-Loup, including Saint Jeannet, Gattieres, and Vence, 1,000,000 kilograms. During 1929, the yield was no more than between 10 to 15 per cent. of normal, depending upon the estimates made for the various districts involved. Even though a number of the trees are coming back splendidly after the shock suffered, some of the people close to the situation believe that this year's yield will not be more than 25 per cent. of the normal. This may be pessimistic, but is the opinion expressed by

(*Continued on page 170*)

Natives of the Bar Sur Loup district gathering orange flowers

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# Perfume and Antiseptic

**In addition to furnishing the base for artificial carnation odors, Eugenol and its isomer, isoeugenol, are phenols possessing a high antiseptic value.**

EUGENOL and its derivative isoeugenol are known as phenols, the root of the word *phen* (o)—, used in combinations, coming from the Greek *phainos* (*phan*-show), and, in chemistry, designating names of substances derived from coal-tar, originally in the manufacture of illuminating gas. Used in the singular, the word phenol means carbolic acid, whereas used in the plural, phenols designates that group of compounds analagous to phenol and derived from hydrocarbons. There exist certain natural phenols, among which eugenol, $C^{10}H^{12}O^{2}$, a constituent of oil of cloves to the extent of 85 to 92 per cent., is the more widely known. It represents the point of departure in the manufacture of vanillin under a certain category. Eugenol is also frequently obtained from other parts of the clove tree, like the leaves, for example, the entire tree, practically speaking, containing aromatic oils. Success has also been achieved in using the oil of leaves taken from the cinnamon-tree for the production of eugenol. The use of these oils for this purpose has, of course, served to raise their market value considerably, as pointed out by Gattefossé in his work on synthetic aromatics.

For the purpose of extraction, the oil of cloves is agitated with a solution of caustic potash, which gives with the eugenol a combination that is treated by means of the cold process with diluted hydrochloric acid. The eugenol, thus freed, is then decanted and purified by fractionary distillation.

During the war the manufacture of eugenol in France, for instance, assumed large proportions, as this synthetic aromatic was employed in big quantities by the manufacturers of varnish for the purpose of giving to their products a satisfactory elastic and transparent quality. The varnish so treated was used very largely by the makers of aeroplanes, who employed it for varnishing the wings of the machines. Before the war the production of eugenol in France was not very extensive, and when this insistent demand sprang up almost of a sudden, the producers of synthetic aromatics had to meet the situation by getting organized for increased output. This brought about the use of a number of methods of extraction which cannot be gone into at length here, but which were designed to answer the problems and obstacles placed in the way of the French manufacturer by certain regulations governing the treatment of the oil of cloves.

One of the more interesting methods used was that discovered by two chemists, Messrs. J. Valette and J. Gattefossé, who proceded to decompose the mixture of eugenol and soda by utilizing compressed carbonic acid gas. According to R. M. Gattefossé, the apparatus required and method employed are very simple: a large vat received by means of serpentine, or winding-pipe, pierced full of little holes, the carbonic acid gas released therein, and which upon contact with the soda solution rapidly decomposes it. It is said that the eugenol secured this way is of a finer aspect and absolutely neutral. The operation is not arrested, in fact, until the solution being treated gives every indication that it has become acid, this test being made in the regular way by means of litmus-paper, for example. The crude substance may then be distilled in vacuum without any trouble and the process gains considerably with respect to rapidity. Furthermore, the carbonate of soda solution may be rendered caustic and thus serve indefinitely. The expense of the carbonic acid gas is amply compensated for by the advantages gained, and it is due to this method that tons of eugenol were quickly prepared in France during a very critical period.

Eugenol has a distinct odor of carnations, and is, therefore, used as a base in the manufacture of perfumes of this type. Having a high antiseptic value, it is also used in fumigating powders, medicines, frankincense, tooth pastes. It is also used as a flavoring ingredient in candies and soft drinks. In order to assure its keeping qualities, it should be protected from the light and air.

Heated in an autoclave, or steaming-pan, with potash, eugenol is transformed into isoeugenol, usually called artificial carnation. The derivatives of isoeugenol: methyl and benzylisoeugenol, or isoeugenol methyl and isoeugenol benzyl ether, are recognized as being excellent fixatives, especially for carnation perfumes. Isoeugenol benzyl ether is also used to

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fix violet, magnolia, clover, artificial rose otto, eau de Cologne, fern, etc., giving these perfumes body. Combined with citronellal hydrate and phenylethyl alcohol, it produces a good lilac base.

Isoeugenol is an isomer of eugenol, or isomeric, obtained by action of dissolved potash. For example, one can dissolve 10 kilograms of oil of cloves in 15 kilograms of solution containing 5 kilograms of caustic soda. This is agitated, and the next day one adds 5 kilograms more of soda and this is heated. Agitation or stirring is kept up constantly for an hour. This result is then washed, neutralized and distilled. Isoeugenol in its pure state chrystallizes and gives off an agreeable odor of carnation.

With the two products, eugenol and isoeugenol, the manufacturing perfumer can produce the entire line of carnation perfumes known to synthetic aromatics. Eugenol, authorities agree, gives a note less refined, a little sharper, whereas isoeugenol suggests a more flowery tone, more vanilla like, bringing to mind the fact that much of the vanillin used is produced from isoeugenol employed as a base.

Solutions of both eugenol and isoeugenol in alcohol should be kept from artificial and natural light. In fact, it is best to use brown or dark blue bottles, although even these precautions are sometimes found to be inadequate, both products taking on a coloring that varies between a light and a dark yellow. Isoeugenol should never be left in metal containers, which serve to bring about a discoloration running to a purplish brown that becomes darker as time elapses.

The following formulae, taken from a recent French work on perfumes, will give the readers of DRUG MARKETS an opportunity to experiment with both eugenol and isoeugenol:

### Carnation I

| | |
|---|---|
| Isoeugenol | 650 gr. |
| Eugenol | 130 cc. |
| Phenylethyl alcohol | 100 cc. |
| Terpineol | 50 cc. |
| Neroli | 25 cc. |
| Vanillin | 25 gr. |
| Jasmine oil (natural) | 10 cc. |
| Aldehyde $C^8$ (octyl) | 5 gr. |
| Alcohol $C^8$ (octyl) | 5 gr. |

### Carnation II

| | |
|---|---|
| Isoeugenol | 600 gr. |
| Eugenol | 125 cc. |
| Nerol | 50 cc. |
| Terpineol | 50 cc. |
| Hydroxycitronnellal | 10 cc. |
| Neroli (natural oil of) | 25 cc. |
| Jasmine oil (natural) | 15 cc. |
| Cassia or mimosa (natural) | 15 cc. |
| Tuberose oil (natural) | 20 cc. |
| Rose oil (natural) | 30 cc. |
| Carnation oil (natural, absolute) | 60 cc. |

### Carnation III

| | |
|---|---|
| Isoeugenol | 450 gr. |
| Eugenol | 250 cc. |
| Nerol | 50 cc. |
| Rose oil | 50 cc. |
| Jasmine oil | 5 cc. |
| Neroli oil | 75 cc. |
| Bergamot oil | 25 cc. |

### Carnation IV

| | |
|---|---|
| Isoeugenol | 700 gr. |
| Eugenol | 100 cc. |
| Neroli oil | 50 cc. |
| Vanillin | 25 gr. |
| Coumarin | 15 gr. |
| Jasmine oil | 30 cc. |
| Carnation oil (absolute) | 60 cc. |
| Aldehyde $C^9$ (nonyl) | 5 gr. |
| Alcohol $C^9$ (nonyl) | 5 gr. |
| Musk, ketone | 10 gr. |

### Carnation V

| | |
|---|---|
| Isoeugenol | 600 gr. |
| Isoeugenol benzyl ether | 100 cc. |
| Ylang-ylang oil | 25 cc. |
| Neroli oil | 20 cc. |
| Rose oil | 25 cc. |
| Vanillin | 25 gr. |
| Bergamot oil | 50 cc. |
| Carnation oil (absolute) | 100 cc. |
| Aldehyde $C^8$ (octyl) | 3 gr. |
| Aldehyde $C^9$ (nonyl) | 2 gr. |
| Benzoin gum | 50 gr. |

### Giroflee or Stock

| | |
|---|---|
| Isoeugenol | 600 gr. |
| Linalol | 100 cc. |
| Vanillin | 50 gr. |
| Neroli oil | 100 cc. |
| Jasmine oil | 25 cc. |
| Mimosa oil (natural, absolute) | 25 cc. |
| Terpineol | 75 cc. |
| Alcohol $C^9$ | 15 gr. |
| Aldehyde $C^9$ | 5 gr. |
| Phenylacetic aldehyde | 5 gr. |

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Nyal Co., Detroit, have appointed L. J. Bertoli director of sales and merchandising. He has been with the Du Pont Viscoloid Co. and was formerly with the Fuller-Morrison Co., Chicago.

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# Market Facts From Grasse

- New Clary Sage Plantations
- Gathering Parma Violets
- Mimosa Not Abundant
- Jonquil Yield Good
- Winter Extremely Mild

By O. C. Zilisch
Our Grasse Correspondent

WEATHER continues to be the main topic of conversation insofar as the situation in Grasse is concerned, and up to the present writing the winter has not been particularly rigorous anywhere in France. In fact, extremely mild weather has been experienced as far north as Paris, several days of last month being more like days in May or June, and it can be readily seen, therefore, that nothing unusual, up to now, has occurred from a weather point of view to disturb the perfume-flower growers of the Grasse district. January on the Mediterranean is regarded as being the most beautiful month of the winter season, and the trade does not have to be reminded that the January of 1929 did not follow this tradition. By the first of February, 1929, no less than seven heavy frosts in the Grasse district had been recorded. In several sections of the Grasse region this number was increased considerably, and the damage caused brought disappointment and discouragement to many of the growers. Added to the cold was the unusually heavy snowfall, with the result that the Bar-sur-Loup section, for example, was visited on the 27th of January, 1929, by a snowstorm leaving in its wake from 15 to 20 centimeters (or approximately 6 to 8 inches) of snow, an almost unheard of event. With the exception of, perhaps, one or two days below zero Centigrade, or 32° Fahrenheit, nothing striking can be reported during the past month. The rather abundant rains which visited the region during January, particularly the first part, did a great deal of good, making it possible for the growers to see the possibilities of a satisfactory season ahead. Work in the fields is progressing satisfactorily, although some of the growers are faced by the problem of securing enough competent labor. Furthermore, the cost of workers who are really competent is almost prohibitive, and for this reason many of the growers and their families are doing much of the work themselves, in order to keep expenses down. This situation is anything but encouraging to the cultivation of perfume-flower plants, and is bringing some of the growers to a point where consideration is given to the advisability of abandoning what they regard to be a thankless and unremunerative business.

## Dressing in Progress

At the present time the dressing, or dunging, process is in full swing. As a rule, this season of the year sees the growers putting in new plantations, but, as pointed out in our last report, that is not the case this year. In fact, according to those very close to the soil, and in intimate touch with existing conditions, a number of the old jasmine plantations, for example, instead of being replaced, are simply being destroyed. Just what this procedure will lead to is not difficult to foresee, and it is hoped by those concerned that a turn the other way can be effected before it is too late.

Distilling perfumers are slower to admit that these conditions exist, although it is acknowledged that many of the growers are discouraged, and that something should be done to prevent a serious abandonment of perfume-flower cultivation. Some of the distilling perfumers are frank to say that they believe that the growers are unduly pessimistic, because of the fact that they are so close to their work. It is also pointed out that any seasonable business, making those engaged in it dependent upon the weather, etc., is bound to evoke a pessimistic, and even fundamentally untrue, line of statements on the part of those close to the exacting demands of the soil.

These are the views held by both sides, and which is right remains to be seen, as the seasons develop from year to year. More and more is being done to increase the perfume-flower possibilities of the French colonies, and considerable attention is now accorded to any experimental work promising results along these lines.

## More Clary Sage Production

Due to the increasing demand for oil of clary sage, a large number of new plantations are in progress, and, according to every indication, they are progressing very satisfactorily. As pointed out in the report from month to month, during 1929, the cultivation of clary sage in the Grasse region is assuming proportions wholly unlooked for. The demand for the oil has, of course, activated this movement, influencing many of the growers in the Grasse district to raise clary sage in anticipation of next season's requirements. Continued mild weather is hoped for, so that the new cultures will not be subjected to any harmful cold, as was the case in 1929, when a number of them were completely destroyed by the heavy frosts. It is interesting to note that in March, 1926, for example, oil of clary sage was quoted at 875 and 900 francs (about $35 and $36), with the statement: VERY LITTLE DEMAND. In February, 1929, the oil was quoted at 5,000 francs (approximately $200), with the information that at that time it was very scarce, with DEMAND INCREASING. New plantations had been put in by the growers for the 1929 season, and the last quotation available last part of January is in the neighborhood of 3,000 francs (about $120), with the statement: STOCKS REDUCED. In other words, there is quite a difference between the prices prevalent in 1926, and those asked in 1929 or 1930. If the new plantations are successful, and bring in a good yield, the price situation may be somewhat ameliorated, except that the present stocks are admittedly reduced, making for the possibility of continued high prices for oil of clary sage. Interesting developments with respect to clary sage are in the offing, particularly as the demand for the oil is, apparently, seeing no let-up.

Gathering of the Parma violets has just begun, to be followed by the violet of Hyeres, also known as the Victoria, which is grown there. Indications are that the yield will be better than that of last year on both the Parma and the Victoria. Price paid in 1929 for the Parma violet was 25 francs (about $1) per kilogram, and this year's price will be about the same, unless an unusually

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good crop is gathered, in which case the price will, naturally, see a drop. At the present writing no definite figures are available. The Parma violet, as signalled last year, is in the process of disappearing from the Grasse region, due to a certain affection which attacks the leaves first and finally reaches the flowers themselves. This affection appears in the form of orange yellow spots. The dangers of this were called to the attention of the persons concerned, and there has been some progress made in checking it. In 1926 the complaint was that practically all of the Parma violets were sold in bouquets, very few reaching the distilling perfumer, although the yield that year was exceptionally good. In fact, many of the violets raised in the Grasse region find their way into the hands of the florists, this tending to cut down the number destined for the distilling perfumer. Parma violet absolutes were practically non-existent last year, and this season's yield is, therefore, supposed to lighten the situation a bit. Nothing definite, however, can be stated until the yield is in and taken care of.

As reported last month, the orange trees, in general, have recovered remarkably well after the cold and snow of last winter. Of course, those trees which were too severely hit can not be counted on to produce any sort of crop, and for this reason it is now estimated the yield for 1930 will not go beyond 2-3 of the normal, if that. If a late cold spell should make its appearance, then this estimate would, naturally, be reduced accordingly. Developments are being watched very closely, as all orange flower stocks are practically nil. Last minute advices from a large distilling perfumer state categorically that it may be possible to find small amounts of neroli here and there, but that pomade and volatile solvent products are virtually non-existent among over half of the distilling perfumers, and that those held by the other few are insignificant. It is also pointed out that many of the manufacturing perfumers have used sparingly of their old stocks, making them last as long as possible. In other words, last year purchases were cut down to a minimum, because of the high prices, this condition naturally indicating that this year's requirements will exceed those of last season. In the event, therefore, of any unusually bad weather conditions, a serious situation with respect to available stocks would result. In August, 1926 neroli was quoted at 1,700 francs (about $68), whereas the price the latter part of January, 1930, was 20,000 (approximately $800). Furthermore, the present stocks have been almost exhausted, making it almost impossible to purchase a French (Grasse) neroli of recognized high quality. Petit-grain in 1926 was quoted at 200 to 250 francs (about $8 to $10), whereas the last figures available were 1,100 to 1,200 per kilogram (approximately $44 to $48). Orange flower concrete, which is said to be almost unobtainable, is now quoted at 15,000 francs (about $600).

## Mimosa Yield Abundant

The mimosa, as indicated last month, will not be very abundant as to yield, insofar as the distilling perfumer is concerned. Many of the flowers this year have been purchased by the florists in Cannes and other cities on the Riviera. This condition, together with the damage done by the cold and snow last year generally, will keep the oil of mimosa at about 1,200 francs ($48), or even bring about a rise in price. The gathering of the yield has not, as yet, been terminated, and the results will, of course, not be available until then, although it is now felt that there will be no appreciable trend downward, due to reduced stocks.

Several slightly cold days during the last days of December arrested the vegetation of the jasmine, which is, at the present time, in a state of rest. Winter dressing, or dunging, has been taken care of. Some of the jasmine growers, in connection with the Jardin d'Essais, or Garden for Experimental Research, in Grasse, have taken upon the fight against a certain kind of rot which has been attacking the jasmine plants. This malady has caused a great deal of damage, especially last year, and has caused the growers a great deal of worry and anxiety. Jasmine

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**Givaudan-Delawanna, Inc.**

101 FIFTH AVENUE, NEW YORK, N. Y.

T.L. SPECIALISTS SINCE 1851 PIONEER

BEESWAX

Pure White Sun Bleached

*Guaranteed under Food and Drug Act of June 30, 1926, Serial No. 4068.*

**Specify**

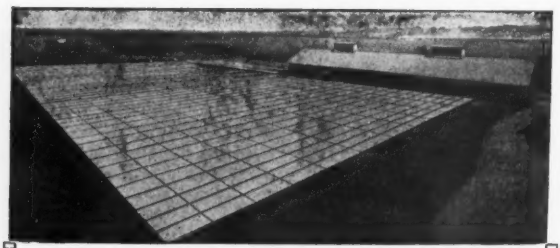
**T. L. BRAND**

Sun Bleached under glass from the highest quality crude yellow beeswax obtainable. Especially suitable for the manufacture of toilet preparations of quality, that will keep and not turn rancid or yellow.

**PIONEER BRAND---Yellow**

**THEODOR LEONHARD WAX CO., Inc.**
**HALEDON PATERSON NEW JERSEY**
**Long Distance Telephone: Armory 1690**

PIONEER T.L.



BEEHIVE BRAND
BEESWAX

*Absolutely Pure*
*and*
*Sun-bleached*

Stearic Acid—Red Oil
Glycerine—Ceresine
Spermaceti

**WILL & BAUMER CANDLE CO., Inc.**
**Syracuse, N. Y.**

stocks are being gradually reduced, and a rise in price may be looked for.

The rains at the beginning of January held up the work in connection with the care of the rose trees, particularly with regard to dressing and twining and twisting of the branches. The work has, however, been accomplished, and the rose trees, as a whole, are in very good condition. New plantations are being placed, although their number is not thought sufficient to indicate a better yield than that for 1929, which was very satisfactory, despite the fact that the rose trees had suffered considerably from the cold and snow. It is also thought, in some quarters, that the large yield of last year will mean a smaller one this year, with a consequent rise in price for rose products.

The jonquil plantations appear to be coming along very finely, and the last rains have, apparently, been very beneficial. Jonquil concrete is quoted as being very rare, the price given as 10,000 francs (about $400). The yield in 1928, the gathering of which ended during the first days of April of that year, was satisfactory, reaching a figure above that of 1927. In 1929 the crop, which was gathered up to and including the middle of April, was from 35 to 50 per cent. below the normal. This was due to the nature and reaction of various soils, and the very dry weather which preceded the gathering time. Naturally, it is hoped that this season will see a better yield, in order that the situation may find relief in increased stocks of jonquil products.

Comment in the French press regarding the extremely mild winter up to the present time brings out the fact that such weather conditions are really unfavorable to the agriculturist and the horticulturist, for the reason that a sudden spell of cold would mean damage and destruction. On February 4 and 5 the almond trees in the south of France were in bloom, particularly in the southern district of the Drome, and in the Toulouse region. A number of fruit trees have developed buds, and it is feared that the frosts of March and April, if too heavy, may do a great deal of damage. This situation applies, of course, to the perfume-flower and aromatic plants grown in the south of France, and all precautions are, therefore, being taken to ward off any unusual developments.

---

McKesson & Robbins, Inc., declared the regular quarterly dividends of 50 cents on common payable February 10 to stock of record January 30, and 87½ cents on preference Series A stock payable March 15 to stock of record February 28.

Senator Eugene Charabot, head of Charabot & Cie., Grasse, France, recently returned to his native country after spending several weeks with his American representatives, Ungerer & Co., New York.

*Manufactured for seventy-three years*

Pure and Dependable **ETHER** Of Uniform quality

**SULPHURIC (Concentrated)**

Supplied in {1 lb. 5 lb. 25 lb. cans and 300 lb. drums}

***By the U. S. A. Pioneer Manufacturer***

COOPER'S CERTIFIED CHEMICALS

**Charles Cooper & Co.**
**192 Worth Street**
**New York, N. Y.**

*The sign of well made chemicals*
**Established 1857**
**Works: Newark, N. J.**

# 5 of the Different Types of POWCO BRAND Neutral -- Powdered Soaps

No one soap can be adapted to every product.

*Your* tooth paste or toilet preparation may require a soap with a *decided* jelling property—possibly a soap with a copious lather — or *some* other such definite characteristic.

POWCO BRAND Soaps offer you a wide range of Laboratory Controlled Neutral Soaps for dentifrices and other toilet preparations, guaranteeing *uniformity of purity, of chemical constants* and *physical characteristics.*

Working samples gladly submitted upon request.

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**114 EAST 32nd ST. New York City**

THE two booklets shown at right are valuable to all users of Alcohol and Industrial Chemicals.

Through the sales organization of A. K. Hamilton, The Pennsylvania Sugar Company and the Franco-American Chemical Works are able to offer you a twofold service on your purchases of industrial alcohol and allied chemicals.

These two booklets have been prepared to give you such information as you may need about these products. Either or both booklets will be sent to you on request.

**Pennsylvania Sugar . . . Company . . .**

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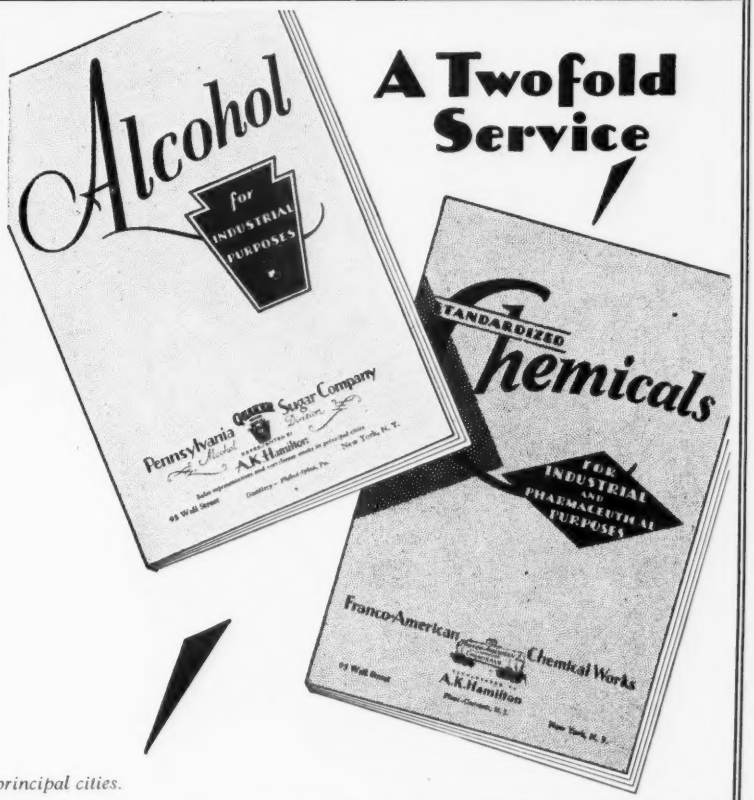
*Represented By*

**A. K. Hamilton**

95 Wall St. New York, N. Y.

*Sales representatives and warehouse stocks in principal cities.*



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YEARS of experience . . . . . skilled craftsmen and complete production facilities . . . these are the assurances we offer in achieving the individuality you wish in the container for your product.
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WILMINGTON, DEL.
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## Grasse Orange Flowers

(*Continued from page 160*)

many in a position to know. Only time can tell what the yield will really be, and extremely favorable weather can bring about some agreeable surprises.

Among the large firms treating the orange flower must be mentioned, first, the Co-operative Nerolium, which comprises 1,200 co-operators. Then there are the large distilling perfumers of Grasse, and also the Société Phypa, Bar-sur-Loup, which specializes in the treatment of the orange flower. During the season of 1928 the orange flower brought a price of 10.50 francs (or approximately 42 cents) per kilogram, whereas in 1929 it commanded 21 francs (about 84 cents) per kilogram.

The yield per tree is rather difficult to compute, for the reason that so many determining factors must be taken into consideration: atmospheric conditions, age of the tree, ravages made by insects, and so on. In some instances it requires ten years of growth before an orange tree will be given even what is recognized as half a yield. Usually, however, one can say that the orange tree enters its period of full production at the age of 20 to 30 years. The average yield per tree, considering everything, is given by A. Rolet as six to ten kilograms, although he cites several cases in which trees have been known to produce 25, 30 and even 100 kilograms of flowers. Such yields are,


BORYSLAW
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*and*
DOUBLY REFINED
(NOT CERESIN)

*The best wax for Cosmetics and Salves*

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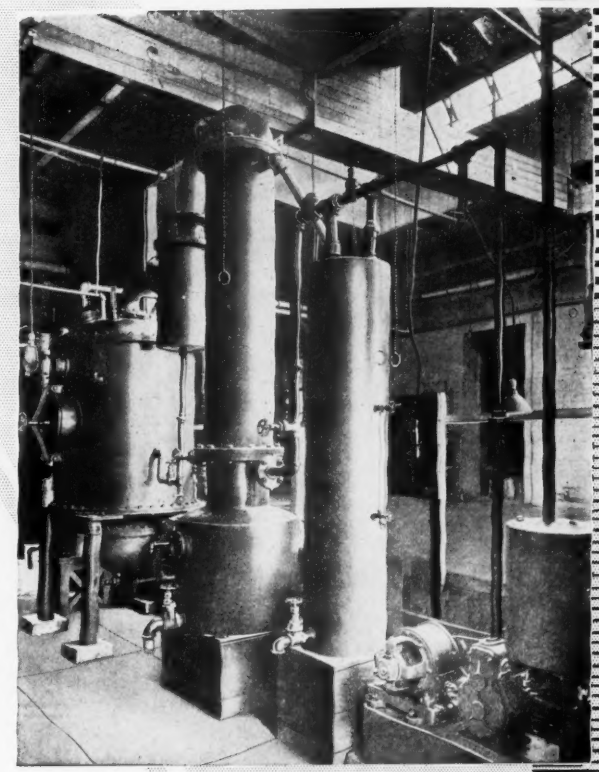
# *It's Important* — to select the right still for the product



Installation of a STOKES *Foam Reducing Still* in the laboratory of a large pharmaceutical manufacturer. The illustration shows, in addition to the still, a surface condenser and a scrubber which prevents solvent vapors from passing through the vacuum pump and being lost.

Many factors enter into the choice of the proper distilling apparatus — nature of the liquid, concentration of the solution, desired boiling point, etc., etc. You can benefit by our years of experience in designing and building distilling apparatus, evaporators—and the other equipment listed.

Consult us on *your* problem.

*STOKES*
Pharmaceutical Equipment
Tablet Making Machines
Vacuum Pans and Dryers
Molds of all Types
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Percolators
Water Stills
Drug Mills and Mixers
Alcohol Recovery Apparatus
Tube and Jar Fillers
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Special Machinery
*Write for Information*

**FJSTOKES MACHINE COMPANY**

*Chemical and Pharmaceutical Machinery since 1895*

5932 Tabor Road, Olney P. O. Philadelphia, Pa.

*Meet*

**CLOSURE CORK-TEX**

*The new improved Sealing Medium*

**He's a regular fellow who's way out in front in this sealing business. He not only possesses the full sealing value of cork in his make-up, but he is built so that he laughs at moisture and heat—never even heard of mould. Always on his feet at the bell against any product action.**

**He'll exhibit his prowess in future issues of this publication and—**

**He'll prove his worth in the toughest packing tests . . . your laboratory or ours. Write us!**

BOND MANUFACTURING CORPORATION
WILMINGTON · · · DELAWARE

however, rare, and occur only under the most ideal conditions conceivable.

Considerable success has been achieved in cultivating the bigarade, or bitter orange tree, in Algeria and Tunis, and an article on this subject will appear in this department of DRUG MARKETS shortly. The cultivation of the orange tree in Algeria and Tunis will, perhaps, serve to counter-balance the losses suffered by the trade through adverse weather conditions in the Grasse district. In this connection, however, it must be pointed out that a number of qualified people in the industry hold that the neroli produced in Grasse cannot be successfully duplicated anywhere. Naturally, this view is disputed in various quarters, leaving the matter of judgment entirely up to the individual, in about the same way as it is done with respect to the May rose of Grasse, also said to be without a rival in the world.

In the Alpes-Maritimes department the gathering of the orange flower commences, as a rule, some time during the last fifteen days of April, extending into the first days of June, or at least to the latter part of May. Certain trees in the Grasse section also bloom in the fall, although this is looked upon as being abnormal, and the orange flowers gathered in the autumn are not in very great demand among the distilling perfumers, as a rule.

The spring yield is gathered in the morning, after the passing of the dew. If conditions permit, big sheets are spread underneath the trees, and the white

**GLYCERINE**
**All Grades**

◆

COLGATE-PALMOLIVE-PEET CO.
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*Produced at and shipped from*
NEW YORK LOUISVILLE
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**Hydroxylamine**
**Hydrochloride CP. White Dry Cryst.**
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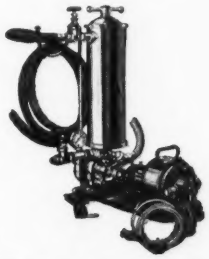
**White Dry Crystals**
**Methylamine**
**Chlorcosane U. S. P.**
*Write for Quantity Quotations and Samples*
**American Chemical Products Co.**
**7 Litchfield Street Rochester, N. Y.**

# THE PRACTICAL APPLICATION OF ALSOP EQUIPMENT TO YOUR MANUFACTURING PROBLEMS

A 50 gal. "ALSOP" tank with a one-quarter H. P. "Hy-Speed" Portable Mixer

## Portable Electric Mixers

The *"Hy-Speed"* Mixer shown at the left will make 50 gallons of 32 degree Baume syrup in fifteen minutes . . . . shift to another tank in one minute . . . . blend 50 gallons of light liquids in three minutes . . . . Another one-minute change . . . . and fine particles of solid matter are instantly placed in suspension in fifty gallons of liquid . . . . and kept in suspension indefinitely. In many cases this mixer will handle larger quantities of liquids. This is only one example of how the speed and adaptability of *"Hy-Speed"* Mixers can be used to practical time-saving advantage in your plant. There is a larger . . . . or smaller mixer in our complete line equipped to handle any job as efficiently.



"Hy-Speed Internal Pressure Filters

## Electric Pressure Filters

The *"Hy-Speed"* Internal Pressure Filter will filter 50 gallons of light liquid in ten minutes . . . . and can be cleaned for use on another batch of different material in two minutes. In nearly every case where gravity methods are used, it will cut filtering costs 95%. Operates from light socket . . . . portable . . . . compact . . . . low in price. Write for folder describing the several models of this remarkable machine.

"Hy-Speed" Electric Bottle-Filler

## Vacuum Bottle Fillers

The *"Hy-Speed"* Vacuum Bottle Filler will fill 1,500 four-ounce bottles in one hour . . . . can be cleaned to handle different liquids in two minutes . . . . adjusts to different size bottles instantly. It fills all bottles evenly . . . . and instantly rejects any bottle that is not absolutely air-tight and free from pin-holes or small cracks. It has no valves . . . . is simple to operate . . . . low in price . . . . and weighs only 45 pounds, including motor.

Air Tight Settling Tanks with two faucets and liquid level gauge

## Glass-Lined Tanks

*"ALSOP"* Glass-Lined Tanks eliminate contamination and corrosion and provide the safest, most natural means of storing liquids. *"ALSOP"* tanks are lined inside and coated outside with special acid-proof glass-enamel. Every type of tank for storage, mixing or special purposes are manufactured in a variety of sizes from one to 200 gallons capacity. Specialization in these sizes makes possible our exceptionally low price.

WRITE FOR CIRCULAR

**ALSOP ENGINEERING COMPANY**

47 West 63rd Street . New York City

flowers allowed to drop thereon. A man, as a rule, goes to the center of the tree, while the women gatherers are mounted on *chevalets*, or easel-ladders, around the branches. Sometimes the gatherers place the flower in a small bag hung from the belt, particularly if the soil is wet and the sheet too spotted with mud. The accompanying photographs, especially those taken in the Bar-sur-Loup district, will give the reader an excellent idea of just how the gathering is done. This work is usually carried out by women and children, from the surrounding country and Italy. These gatherers come directly from the olive trees, in full production just before the orange three blossoms are ready for treatment. A woman can gather anywhere from eight to ten kilograms of flowers per day, depending upon her ability and the abundance of the crop. For a normal yield the number of workers required in the Grasse region is approximately 8,000, this being computed at ten kilograms per gatherer, with the normal yield placed at 2,500,000 kilograms.

The flowers must not remain exposed to the rays of the sun. Once they have been cleared of all leaves and branches, the orange flowers are placed on tiles in a cool place, and moved from time to time in order to keep them from generating heat. In the evening, they are gathered up on spades, placed in sacks and

## *Extra sales help for* YOUR PRODUCT

KORK-N-SEAL makes sales easier because it makes products *easier to use*. And successful manufacturers who Kork-N-Seal their products find that the public appreciates this extra convenience—responding generously with more regular buying.

Let us tell you how Kork-N-Seal and Kork-N-Seal's national advertising and merchandising can help you net more profit from *your* product.

Mail the coupon—or ask whatever specific questions you have in mind, by letter.

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Please send me complete information how I can use Kork-N-Seal and its advertising and merchandising in our business.

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# KORK-N-SEAL
**THE CAP WITH THE LITTLE LEVER**

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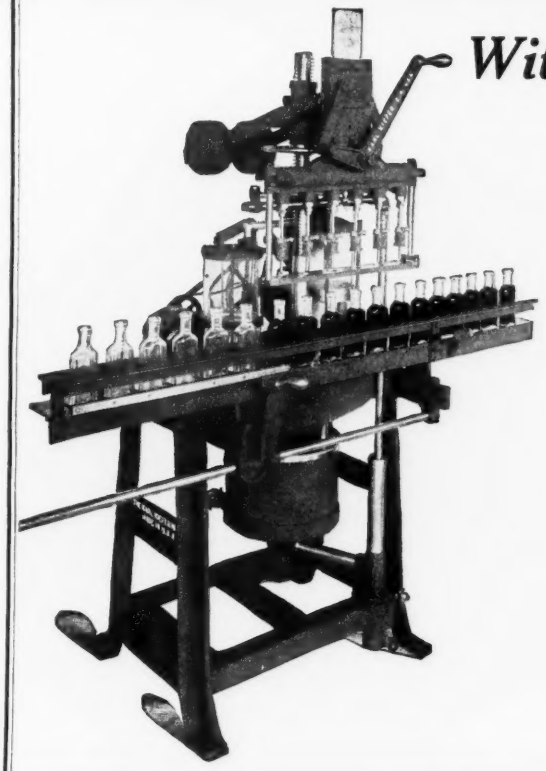
**Acriflavine Acid**
**Acriflavine Neutral**
**Benzocaine U S P**
**Berberine Sulphate Acid**
**Berberine Sulphate Neutral**
**Berberine Hydrochloride**
**Cinchophen U S P**
**Colchicine Alkaloid U S P**
**Hydrastine Alkaloid**
**Hydrastine Hydrochloride**
**Lobeline Sulphate**
**Neocinchophen**
**Podophyllin U S P**
**Powd. & Solid Extracts**
**Procaine Hydrochloride U S P**

*For quotations, please address*

CHEMICAL
SALES DEPARTMENT
ABBOTT LABORATORIES
NORTH CHICAGO, ILLINOIS



## *With this filling machine—*

ONE girl can bottle 75 to 125 gross a day.—Handle a variety of bottles with only a few simple adjustments.—Fill the bottles perfectly with neatness and accuracy, no waste or mess.

Thin or heavy liquids filled; also oil products. All metal construction; no rubber tubes. A wonderful piece of equipment finely finished.

One pharmaceutical manufacturer after trying this machine has installed a second and third, and has now ordered a fourth.

Send samples of your bottles and products and find out how this or one of the other machines of our complete line of vacuum fillers will save money in your plant.

**THE KARL KIEFER MACHINE CO.**
CINCINNATI, OHIO
LONDON OFFICE
C. S. Du Mont, Windsor House, Victoria St. Westminster, S. W. I

# GOOD MIXING
## Gives Better Quality

Good mixing is a prime factor in producing a better product.

"Lightnin" mixers are designed to speed up production, lower mixing costs and insure a thoroughly uniform mix.

***THOUSANDS IN USE***

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PORTABLE
MIXERS

**MIXING EQUIPMENT COMPANY, Inc.**
ORIGINATORS AND WORLD'S LARGEST MANUFACTURERS OF PORTABLE ELECTRIC MIXERS
1034 GARSON AVENUE : : ROCHESTER, N. Y.

# A Winner

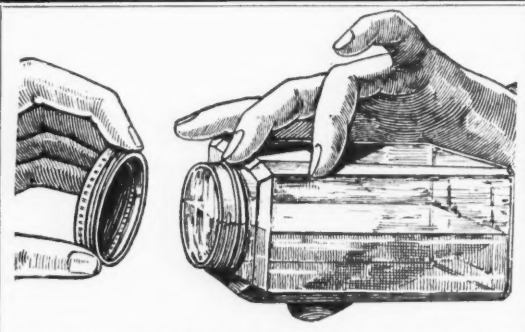
*Beautifies -- Protects -- Sells*

B. D. No. 20
26 Fluid Ounces
Height with cover 6″
Width 4½″
Opening 3⅛″

***Opening large enough for any hand***

**Bull Dog Seal and Glass Package Co.**
**9960 OHIO BLVD. :: DETROIT, MICH.**





***This bottle is DOUBLE SEALED for your protection***

--- INTRODUCING ---

# FILMASEAL

(TRADE MARK REG.)

***"The PERFECT seal for containers"***

If you are operating with automatic equipment using belt or chain conveyors, "FILMASEAL" will interest you.

**FERDINAND GUTMANN & CO.**
*Bottle Closure Specialists Since 1890*
**Bush Terminal No. 19 BROOKLYN, N. Y.**

*"Patents pending covering **FILMASEAL** and every phase of its application and use".*


carried to the *commissionnaires*, or middlemen, who take them to the distilling perfumers.

Distillation of the flowers is accomplished, in a number of instances, by using huge steam stills, or alambics. They are also treated by the so-called maceration, or pomade, method, which consists in soaking the flower in purified fats. The average yield per kilogram of flowers, in the production of the so-called neroli bigarade, is said to be approximately one gram. Flowers of the sweet orange tree, producing the so-called neroli Portugal, give only about half this amount per kilogram. The essential oil secured, namely neroli bigarade, does not, in any way, resemble the odor of the orange flower. In fact, its composition does not compare at all with that of the essential orange oils secured by the maceration or volatile solvents methods of treatment, these oils entering into the manufacture or practically all de-luxe perfumes and toilet preparations.

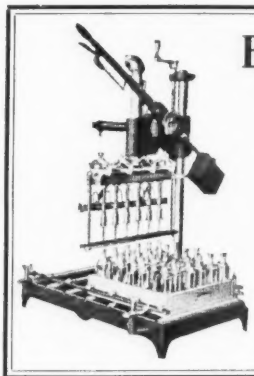
The water which remains after distillation, or orange flower water, is sometimes mixed under heat with more flowers, in order to render it more highly perfumed. This results in the different types of orange flower water on the market, distinguished by their strength in perfume.

In a normal season the Grasse district produces about 2,000 to 2,500 kilograms of orange flower oils, approximately 30 to 50 per cent, at least, being used by the French perfumers, the rest falling into the export category.

The leaves of the orange tree are very rich in oil, and one can see the little drops in the leaves by looking at them against the sun. For the making of petit-grain, both the leaves and the twigs are used, an adult tree giving about three to four kilograms, and 1,000 kilograms produces from two to three kilograms of oil of petit-grain. As a rule the petit-grain bigarade is worth anywhere from eight to ten times less than the neroli bigarade.

---

Grenol, a new shaving cream encased in an attractive tube, is the new product of Green Oil Soap Co., of 156 N. Curtis ave., Chicago. This firm will also produce paradichlorbenzine in a shaker-top dispensing package.

# BENCH FILLERS

**FAST—ACCURATE—DURABLE**

For Extracts, Medicines, Inks, Bluing, Oils, Syrups, etc., etc.

Fillers for bottles, jugs, or cans from 3 ounces to 5 gallons

*Automatic or Hand Feed*

**Horix Manufacturing Co.**
**Corliss Station :: Pittsburgh, Pa.**

# Improve your package with Cellophane

WRAP your package in Cellophane, and you will instantly note a striking improvement in its appearance.

The glass-like transparency of Cellophane brightens up the package—colors stand out with added brilliance—the whole effect is more attractive.

In addition to this improved appearance, the Cellophane keeps the package clean and free from dust—prevents its looking shop-worn. The product too is kept in better condition.

Our machines wrap Cellophane on a wide variety of products. Write to our nearest office for information.

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Over 150 Million Packages per day are wrapped on our Machines

## Faster, Better Granulating At Lower Cost

Granulating is such an important operation in tablet manufacture, that you need the best equipment you can get.

Increased production capacity saves a lot of money and this machine will give it to you. In fact, it saves so much on production costs, its installation is usually paid for within ninety days.

The uniformly finer granulation obtained is easier on punches and dies, and makes the product more saleable.

Let us tell you more about the wonderful results obtained with the machine illustrated here. It produces a firm, even granulation for tablet work and is equally effective for effervescent salts.

Some users find it valuable for breaking down the dried granulation.

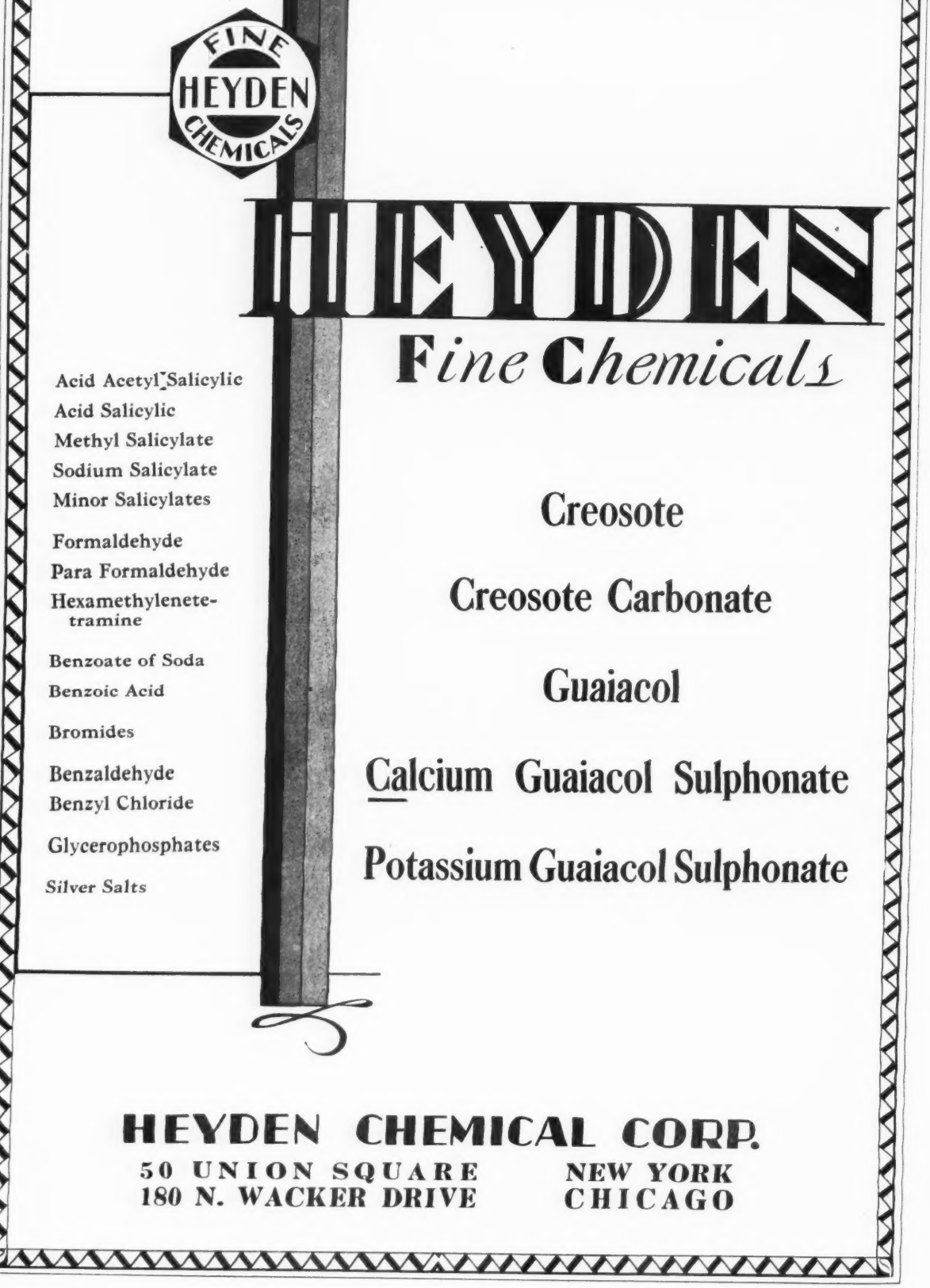
We make a complete line of pharmaceutical machinery. Write us for Catalogue No. 8.

**SPECIFICATIONS**

| | |
|---|---|
| CAPACITY (sugar granulation per hour) | 600 lbs. |
| POWER REQUIRED | 1½ H. P. |
| WEIGHT | 130 lbs. |
| PRICE | $185.00 |

Bands can be furnished with perforations from 3/64 to 1/4″

**ARTHUR COLTON COMPANY**
2620 East Jefferson Avenue DETROIT, MICHIGAN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Sodium Salicylate
Minor Salicylates
Formaldehyde
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Hexamethylenetetramine
Benzoate of Soda
Benzoic Acid
Bromides
Benzaldehyde
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# Prices Current

*Medicinal, Aromatic, and Photographic Chemicals, Crude Drugs, Spices, Essential Oils and Concentrates, Miscellaneous Raw Materials, etc.*

Chemical prices quoted are of American manufacturers, spot New York, f. o. b. for immediate shipment, unless otherwise specified.

Products sold f. o. b. works are so specified. Imported chemicals are so designated. Resale stocks, when a market factor, are indicated "second hand."

Crude Drugs and Essential Oils are quoted f. o. b. New York (Manhattan with limitations) for immediate shipment.

The range of price given is not "bid and asked," but are prices of different sellers, based on varying grades and/or quantities. Containers named are original packages most commonly sold.

**Acetanilid**
**Ammonium Valerate**

## Chemicals

### Monthly Review

### Foreign Iodine Developments

Iodine manufacturing patents and privileges granted to D. Antonio Velasco of San Sebastian for establishing factories in Spain for production of iodine and other chemicals are to be exploited by Sociedad Espanola del Yodo, a new corporation recently established in Madrid with a capital of 2,000,000 pesetas, divided into 4,000 shares of 500 pesetas each.

Spanish iodine consumption is said to be approximately two grams per capita per annum, Spanish statistics showing imports of 25 metric tons per annum being considered low by Madrid authorities, due to imports not all being the form of elementry iodine. Actual consumption of imported iodine is placed at 50 tons per annum.

Italian iodine import duties, as well as duties on iodides and iodoform have been increased the extent of the increase being 1,000 per cent. for iodine, 717 per cent. for iodides, and 555 per cent. for iodoform. Iodine production was first undertaken in Italy in 1926, and production reached 35 quintals in 1927. Imports in 1928 totaled 195 quintals. Italy produces its iodine from the brine waters of mineral springs at Salsomaggiore and the recovery from the waste of sterilization waters in the Instituto Chimico Farmaceutico Militare of Turin.

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### Iodine Imports Less

*Imports of quinine, menthol, iodine, and medicinals increase in first 10 months of 1929.* As will be noted in the accompanying table imports of all the subject commodities increased in quantity with the exception of iodine.

| | *1928 (10 Mos.)* | | *1929 (10 Mos.)* | |
|---|---|---|---|---|
| | *Quantity* | *Value* | *Quantity* | *Value* |
| Iodine (lbs.) | $644,500 | $2,158,000 | $505,300 | $1,785,000 |
| Quinine sulphate (oz.) | 1,318,864 | 477,300 | 1,758,570 | 603,607 |
| All other quinine and other alkaloids and salts from chinchona bark (oz.) | 757,008 | 312,666 | 1,073,464 | 347,226 |
| Other alkaloids and salts of cinchona | | 212,433 | | 394,604 |
| Menthol (lbs.) | 224,426 | 791,550 | 225,059 | 967,436 |
| Antitoxins, serums, vaccines, etc. | | 1,900 | | 1,614 |
| Other medicinals | | 501,681 | | 620,526 |
| All other preparations, m. e. s. | | 1,973,049 | | 2,328,012 |
| Coal tar medicinals | | 180,000 | | 284,000 |

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Strychnine imports into Australia in 1927 totaled 148,000 ounces, valued at £18,000, of which 95 per cent. came from the United Kingdom and 5 per cent from Germany and Switzerland.

| | Current Market | 1929-30 High | 1929-30 Low | 1928 High | 1928 Low |
|---|---|---|---|---|---|
| Acetanilid, USP, 200 lb bbls. lb. | .36 | .37 | .36 | .37 | .28 |
| Acetone, pure 350 lb drs wks. | .14 | .14½ | .14 | .18 | .14 |
| Acetphenetidin, 225 lb bbls. lb. | 1.25 | 1.30 | 1.25 | 1.40 | 1.25 |
| **ACID,** Acetylsalicylic, 225 lb bbls. | .85 | .90 | .85 | .90 | .85 |
| Agaric, 1 oz vials oz. | ..... | 3.50 | 3.50 | 3.50 | 3.50 |
| Arsenous, USP, 220 lb bbls lb. | ..... | .18 | .18 | .18 | .18 |
| Benzoic, USP, 100 lb bbls. lb. | .60 | .61 | .61 | .60 | .61 |
| Boric, 300 lb bbls. lb. | .09½ | .10 | .10½ | .07½ | .12 |
| Cacodylic, 5 lb. bot. lb. | ..... | 8.00 | 8.00 | 8.00 | 8.00 |
| Camphoric, USP, VIII 1 lb bot. lb. | 4.82 | 4.82 | 4.82 | 4.82 | 4.82 |
| Carbolic, USP, crys 112 lb tins lb. | .17 | .18 | .19 | .14 | .21 |
| Cinnamic, 5 lb cans lb. | 3.25 | 3.50 | 3.50 | 3.25 | 3.50 |
| Citric, USP, crys 230 lb bbl lb. | ..... | .46 | .46 | .46 | .46 |
| USP, crys imp. 112 lb keg lb. | .59 | .61 | .61 | .59 | .61 |
| USP, powd 200 lb bbl. lb. | ..... | .47 | .47 | .47 | .47 |
| Diethylbarbituric, 1 lb bot lb. | ..... | 4.60 | 4.60 | 4.60 | 4.60 |
| Gallic, USP, 150 lb bbls. lb. | ..... | .74 | .74 | .74 | .74 |
| Glycerophosphoric, 25% 1 lb bot. lb. | 1.40 | 1.75 | 1.75 | 1.40 | 1.45 |
| Hydriodic, USP, 10% 5 lb bot. lb. | ..... | .80 | .80 | .80 | .80 |
| Hydrobromic, USP, 40% 155 lb. cbys. lb. | ..... | .55 | .55 | .55 | .55 |
| Hypophosphorous, USP, 30% lb. | ..... | .85 | .85 | .85 | .85 |
| 5 gal demis. lb. | .56 | .62 | .62 | .56 | .62 |
| Lactic, USP, VIII 100 lb cbys lb. | .62 | .64 | .64 | .62 | .64 |
| USP, X 100 lb cbys. lb. | ..... | 4.50 | 4.50 | 4.50 | 4.50 |
| Phenylcinchonic. lb. | .14 | .15 | .15 | .14 | .16 |
| Phosphoric, USP, Syr 70 lb drs. lb. | 1.40 | 1.50 | 1.50 | 1.40 | 1.50 |
| Pyrogallic, crys 5 lb cans. lb. | 1.80 | 1.85 | 1.85 | 1.80 | 1.85 |
| Resublimed, 5 lb cans. lb. | .39 | .40 | .40 | .39 | .41 |
| Salicylic, USP, 100 lb bbls. lb. | ..... | 1.35 | 1.35 | 1.35 | 1.35 |
| Succinic, 100 lb bbls. lb. | .05 | .06 | .06 | .05 | .06 |
| Sulfurous, USP, 6% 100 lb cbys. lb. | .82 | .85 | .93 | .82 | .93 |
| Tannic, USP, fluffy 50 lb bbls. lb. | .80 | .85 | .85 | .80 | .85 |
| Powd 200 lb bbls. lb. | .37½ | .38½ | .38 | .37½ | .38 |
| Tartaric, USP, 300 lb bbls. lb | ..... | 30.00 | 30.00 | 30.00 | 30.00 |
| Aconitine, Alk, crys 1 oz vials oz. | ..... | 20.00 | 20.00 | 20.00 | 20.00 |
| Amorphous, 1 oz vials. oz. | .15 | .16 | .16 | .15 | .16 |
| Adeps Lanae, hyd 350 lb bbls lb. | .16 | .18 | .18 | .16 | .19 |
| Anhydrous, 350 lb bbls. lb. | ..... | 2.32 | 2.32 | 2.32 | 2.32 |
| Agaricin, 1 oz vis incl. oz. | | | | | |
| **ALCOHOL,** Benzyl, 5 lb bot lb. | 1.25 | 1.35 | 1.35 | 1.25 | 1.55 |
| Ethyl, USP, 190 pf 50 gal bbls. gal. | 2.69½ | 2.79½ | 2.79½ | 2.69½ | 2.79½ |
| Pure tax free. gal. | .61 | .69 | .69 | .61 | .77 |
| Grain drums. gal. | 2.69 | 2.79 | 2.79 | 2.69 | 4.00 |
| Denatured, drums add 7c for bbls. | | | | | |
| No. 1 spec. gal. | .49 | .57 | .60 | .47 | .55 |
| 1 comp. gal. | .51 | .59 | .61 | .48 | .56 |
| No. 5 comp. gal. | .50 | .58 | .60 | .47 | .56 |
| 23 a, spec. gal. | .50½ | .58½ | .61½ | .48½ | .68 |
| 39 b, spec. gal. | .51½ | .62½ | .71 | .51½ | .71 |
| 40 m. spec. gal. | .47 | .58 | .66½ | .47 | .66½ |
| Isopropyl refd 98-99% drs gal. | 1.25 | 1.50 | 1.50 | 1.25 | 1.50 |
| Phenylethyl, 1 lb bot. lb. | 8.00 | 10.00 | 10.00 | 8.00 | 10.00 |
| Aloin, USP, 100 lb cases. lb. | 1.90 | 1.95 | 1.95 | 1.25 | 1.30 |
| Aluminum Acetotartrate kegs lb. | ..... | 1.60 | 1.60 | 1.60 | 1.60 |
| Amidipyrine, 10 lb boxes. lb. | 4.25 | 4.45 | 4.45 | 4.25 | 4.75 |
| **AMMONIUM,** Acetate 100 lb kegs. lb. | .38 | .40 | .40 | .30 | .38 |
| Benzoate, USP, 1 lb bot. lb. | ..... | 1.27 | 1.27 | 1.27 | 1.27 |
| Borate, 10 lb bot. lb. | ..... | .35 | .35 | .35 | .35 |
| Bromide, USP, 450 lb bbls. lb. | .47 | .49 | .50 | .47 | .50 |
| Imported, 112 lb boxes. lb. | .48 | .50 | .50 | .48 | .50 |
| Carb, USP, lump 100 lb kegs lb. | ..... | .13½ | .13½ | .13½ | .13½ |
| USP, powd 100 lb kegs. lb. | ..... | .14½ | .14½ | .14½ | .14½ |
| Citrate, 100 lb kegs. lb. | .85 | .90 | .90 | .85 | .90 |
| Ichthyolate, as to brand. lb. | 4.00 | 4.50 | 4.50 | 4.00 | 4.50 |
| Iodide, USP, 25 lb jars. lb. | ..... | 5.20 | 5.20 | 5.20 | 5.20 |
| Phosphate, dibasic 250 lb bbls lb. | .48 | .58 | .50 | .43 | .48 |
| Salicylate, USP, 100 lb kegs lb. | 1.15 | 1.20 | 1.20 | 1.15 | 1.20 |
| Valerate, USP, 25 lb jars. lb. | 2.75 | 2.90 | 2.90 | 2.75 | 2.90 |

## { *Monthly Review* }

### Cod Liver Oil Quiet

Cod liver oil remains unchanged in price at $29.00 per barrel for the Norwegian. The fishing season, delayed somewhat by heavy storms in the north, has now gotten under way but very little information as to possibilities is yet available. A late report, however, has it that the livers are fat and that the yield should run about the same as last year. This is rather exceptional as the livers last year produced a particularly large yield so that an off year would be more logical.

It seems to be the feeling among some dealers that the undertone of the market is not so strong and that a weakening in price might be expected. However, definite information will soon be available so that conclusions may be more definitely drawn.

### Quietness Characteristic of Alcohol Market

Quietness seems to be characteristic of the alcohol market. Shipments on contracts have been reported as fair but there seems to be a slight falling off as far as new business is concerned. A normal amount of small orders are being received but the total volume of business usually handled during the first quarter is somewhat less. The lessened demand for raw material in general is probably responsible for the inactivity in alcohol at this time.

Dr. Doran, Commissioner of Prohibition, stated in a recent announcement, that 52,405,000 gallons of completely denatured alcohol, and 54,550,000 gallons of specially denatured alcohol, were produced last year.

### French Production of Synthetic Methanol Increasing

The "Mines de Pethune, "which during the past two years has been producing only 3,000 liters of methanol daily, has just doubled this production and has completed the erection of a plant which will soon triple the present output. This company is also producing 120 tons of formaldehyde monthly and approximately 1,000 liters of ether daily.

Apparently the rather uncertain period attendant upon this company's first attempts at synthetic methanol production is ended and the industry definitely established. (Assistant Trade Commissioner Earle C. Taylor, Paris.)

### Glycerine Declines

Glycerine is lower at 13½c per lb. This represents a decline during the month of ½c per lb. While the nominal market had been maintained for the past several months at 14c per lb. the undertone of the market was not particularly strong and prices below this figure had been offered. This correction in price is now more in line with the true situation.

It is expected in some sources, however, that improvement is not far over the horizon. Inventories are now out of the way and considerable replacement business is looked for. Should demand increase as expected there is every likelihood in a strengthening in both undertone and price.

| | Current Market | 1929-30 High | 1929-30 Low | 1928 High | 1928 Low |
|---|---|---|---|---|---|
| Amylene Hydrate, 1 lb bot..lb. | ..... | 7.10 | 7.10 | 7.10 | 7.10 |
| Antipyrine, USP, 100 lb cans.lb. | 2.65 | 3.00 | 3.00 | 1.53 | 1.75 | 1.53 |
| Apomorphine Hydrochloride, ¼ oz. vials.....oz. | 22.60 | 22.70 | 22.70 | 22.60 | 35.80 | 22.60 |
| Arecoline Hydrobrom, 1 oz vials .....oz. | 7.75 | 8.75 | 8.75 | 7.75 | 11.45 | 7.75 |
| Aspidospermine Amorphous.oz. | ..... | 15.00 | 15.00 | 15.00 | 15.00 | 15.00 |
| Atropine Alk, USP, 1 oz. vials .....oz. | 7.00 | 9.10 | 9.10 | 7.00 | 9.10 | 9.10 |
| Methyl bromide, 1 oz vials.oz. | ..... | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 |
| Sulfate, 5 oz cans.....oz. | ..... | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 |
| Single ounce.....oz. | ..... | 3.15 | 3.15 | 3.15 | 3.15 | 3.15 |
| Barium Iodide, 5 lb box.....lb. | ..... | 5.15 | 5.15 | 5.15 | 5.15 | 5.15 |
| Sulfate, X-ray diagn bbls..lb. | .09½ | .10 | .10 | .09½ | .10 | .09½ |
| **BAY RUM** Porto Rico, 45 gal. bbls.....gal. | .85 | .90 | .90 | .85 | .90 | .80 |
| Domestic syn. 50 gal bbl..gal. | .70 | .75 | .75 | .70 | .75 | .65 |
| St. Thomas, 50 gal bbls...gal. | .80 | .90 | .90 | .80 | .90 | .80 |
| Benzonaphthol, 5 lb boxes...lb. | 2.50 | 2.60 | 2.60 | 2.50 | 2.60 | 2.50 |
| Benzoyl Cholride, 500 lb dr..lb. | ..... | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Benzyl Benzoate, Medicinal FFC.....lb. | ..... | 1.40 | 1.40 | 1.40 | 1.40 | 1.40 |
| Chloride Redis, 160 lb cby.lb. | .30 | .35 | .35 | .30 | .35 | .30 |
| Formate, 1 lb bot.....lb. | 3.25 | 3.50 | 3.50 | 3.25 | 3.50 | 3.25 |
| Succinate, 160 lb cby.....lb. | ..... | 5.25 | 5.25 | 5.25 | 5.25 | 5.25 |
| **BISMUTH**, metal 100 lb cases .....lb. | ..... | 1.70 | 1.70 | 1.70 | 2.25 | 1.70 |
| Ammon. Citrate, USP, 5 lb cans.....lb. | ..... | 5.50 | 5.50 | 5.50 | 5.65 | 5.50 |
| Betanaphtholate, 5 lb box.lb. | ..... | 3.10 | 3.10 | 3.10 | 3.35 | 3.10 |
| Citrate, USP, 5 lb cans....lb. | ..... | 2.75 | 2.75 | 2.75 | 2.95 | 2.75 |
| Chloride.....lb. | ..... | 3.15 | 3.15 | 3.15 | 3.40 | 3.15 |
| Hydroxide.....lb. | ..... | 3.05 | 3.05 | 3.05 | 3.30 | 3.05 |
| Nitrate, 25 lb jars.....lb. | ..... | 1.80 | 1.80 | 1.80 | 1.95 | 1.80 |
| Oxide anhydrous.....lb. | ..... | 3.40 | 3.40 | 3.40 | 3.70 | 3.40 |
| Oxychloride, 25 lb boxes...lb. | ..... | 3.10 | 3.10 | 3.10 | 3.35 | 3.10 |
| Salicylate, 25 lb boxes.....lb. | ..... | 1.80 | 1.80 | 1.80 | 1.95 | 1.80 |
| Subcarbonate, USP, 25 lb boxes.....lb. | ..... | 2.20 | 2.20 | 2.20 | 2.70 | 2.20 |
| Subcarbonate, X-ray diag 1 lb. bot.....lb. | ..... | 3.45 | 3.45 | 3.45 | 3.65 | 3.40 |
| Subgallate, USP, 25 lb boxes .....lb. | ..... | 2.50 | 2.50 | 2.50 | 2.70 | 2.50 |
| Subiodide, 5 lb lots.....lb. | ..... | 4.25 | 4.25 | 4.25 | 4.40 | 4.20 |
| Subnitrate, USP, 25 lb jar.lb. | 1.58 | 1.60 | 1.65 | 1.58 | 2.30 | 1.60 |
| Subsalicylate, USP, 25 lb boxes.....lb. | ..... | 2.90 | 2.90 | 2.90 | 3.15 | 2.90 |
| Tannate.....lb. | ..... | 2.65 | 2.65 | 2.65 | 2.65 | 2.45 |
| Borax, crys USP, 400 lb bbls.lb. | ..... | .06 | .06 | .03½ | .05 | .03½ |
| Bromoform, USP, 5 lb bot cases .....lb. | 1.65 | 1.90 | 1.90 | 1.65 | 1.90 | 1.65 |
| Butylchloral Hydrate bot....lb. | 4.00 | 5.00 | 5.00 | 4.00 | 5.00 | 4.00 |
| Cadmium iodide, 10 lb bot...lb. | ..... | 4.55 | 4.55 | 4.45 | 4.55 | 4.4 |
| **CAFFEINE** Alk, USP, 1..... 100 lb kegs.....lb. | 2.75 | 2.80 | 2.95 | 2.75 | 3.20 | 2.80 |
| Citrated, 50 lb cans.....lb. | 2.20 | 2.45 | 2.60 | 2.00 | 2.25 | 2.00 |
| Hydrobromide, 1 lb bot...lb. | 4.80 | 5.00 | 5.00 | 4.80 | 5.00 | 4.65 |
| Hydrochloride, 1 lb bot...lb | 6.05 | 6.55 | 6.55 | 6.05 | 6.55 | 6.05 |
| Sulfate, 1 lb bot.....lb. | 5.40 | 5.90 | 5.90 | 5.40 | 5.90 | 5.40 |
| Sodium Benzoate, tins....lb. | ..... | 3.05 | 3.05 | 3.05 | 3.05 | 3.05 |
| Salicylate, tins.....lb. | ..... | 2.95 | 2.95 | 2.95 | 2.95 | 2.95 |
| Calcium Bromide, 100 lb cs. .lb. | ..... | .60 | .60 | .60 | .60 | .60 |
| Carb, USP, 175 lb bbls....lb. | .04½ | .06½ | .06½ | .04½ | .06½ | .04½ |
| Glycerophos, 250 lb bbls...lb. | ..... | 1.40 | 1.40 | 1.40 | 1.40 | 1.40 |
| Hypophos, USP, 25 lb cans lb. | .60 | .65 | .65 | .60 | .65 | .60 |
| Iodide, 5 lb bot.....lb. | ..... | 4.35 | 4.35 | .35 | 4.35 | 4.35 |
| Lactate, USP, 500 lb bbls lb. | .45 | .50 | .50 | .45 | .50 | .45 |
| Lactophosphate Soluble...lb. | ..... | 1.20 | 1.20 | 1.20 | 1.20 | 1.20 |
| Powdered tins.....lb | ..... | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Insol, powd tins.....lb. | ..... | .50 | .50 | .50 | .50 | 50 |
| Sulfide, USP, 100 lb drs...lb. | .21½ | .24 | .24 | .21½ | .25 | 20 |
| **CAMPHOR**, Jap. ref. slabs 100 lb. cases.....lb. | .63 | .64 | .64 | .59½ | .66 | .57 |
| Refined powd.....lb. | .65 | .66 | .66 | .63 | .70 | .62 |
| ½ oz tab, 100 lb cases....lb. | .76 | .77 | .77 | .73 | .75 | .68 |
| Liniment, bbls.....gal. | 2.20 | 2.30 | 2.30 | 2.20 | 2.30 | 2.20 |
| Monobrom, 100 lb cases...lb. | 1.85 | 1.90 | 1.90 | 1.85 | 1.90 | 1.85 |
| Casein edible, 100 lb kegs...lb. | .45 | .55 | .55 | .45 | .55 | .45 |
| Charcoal Animal medicinal jars incl.....lb. | ..... | .50 | .50 | .50 | .50 | .50 |
| Charcoal Wood, powd, 100 lb. bbls.....lb. | .05½ | .06 | .06 | .05½ | .06 | .05½ |
| Chloroform, USP, 50 lb drs...lb. | .25 | .27 | .30 | .25 | .30 | .28 |
| Chloral Hydrate, USP, 25 lb jars.....lb. | .75 | .80 | .80 | .75 | .80 | .70 |
| 100 lb drums.....lb. | .55 | .60 | .75 | .70 | .75 | .65 |
| Cholesterin.....oz. | 5.50 | 5.85 | 5.85 | 5.50 | 5.85 | 4.00 |
| Chromium Sulfate Scales, tins .....lb. | .55 | .60 | .60 | .55 | .60 | .55 |
| Powdered tins.....lb. | .60 | .65 | .65 | .60 | .65 | .60 |
| Chrysarobin, 50 lb tins.....lb. | 3.75 | 4.10 | 4.25 | 3.75 | 4.25 | 3.65 |
| Cinchonine Alk, 100 oz tins .oz. | ..... | .38 | .38 | .38 | .38 | .38 |
| Crystal.....oz. | .43 | .46 | .68 | .65 | .68 | .65 |
| Sulfate, 100 oz tins.....oz. | ..... | .25 | .25 | .25 | .25 | .25 |
| Cinchonidin Sulfate, 100 oz tins .....oz. | .35 | .35 | .35 | .35 | .35 | .35 |
| Cocaine Alk, USP, 1 oz vial..oz. | ..... | 11.07 | 11.07 | 11.07 | 11.07 | 11.07 |
| Hydrochloride, USP,.....oz. | ..... | 8.50 | 8.50 | 8.50 | 8.50 | 8.50 |
| **CODEINE** Alk, 1 oz vials, 10 lots.....oz. | ..... | 11.87 | 11.87 | 10.37 | 10.37 | 10.37 |
| Hydrobromide.....oz. | ..... | 8.92 | 8.92 | 7.42 | 7.92 | 7.42 |
| Hydrochloride.....oz. | ..... | 10.87 | 10.87 | 9.37 | 9.87 | 9.37 |
| Nitrate, oz vl 10 oz lots....oz. | ..... | 9.80 | 9.80 | 8.30 | 8.80 | 8.30 |
| Phosp. oz vl, 10 oz lots....oz. | ..... | 9.42 | 9.42 | 7.92 | 8.42 | 7.92 |
| Salicylate.....oz. | ..... | 8.25 | 8.25 | 6.75 | 7.25 | 6.75 |
| Sulfate, oz vl, 10 oz lots...oz. | ..... | 9.67 | 9.67 | 8.42 | 8.92 | 8.42 |

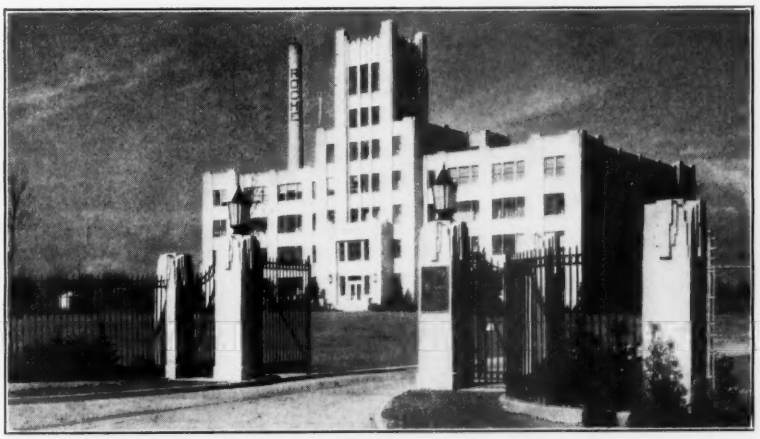
# 'Roche' Fine Chemicals

## BARBITAL

## QUININE and SALTS

## SAPONIN

*Arecoline*
*Atropine*
*Brucine*
*Quinidine*
*Cinchonine*
*Cinchonidine*
*Colchicine*
*Digitalin*



*Emetine*
*Eserine*
*Hyoscine*
*Guaiacol*
*Homatropine*
*Sparteine*
*Yohimbine*
*Hydrastine*

## Hoffmann-LaRoche, Inc.

*Makers of Medicines of Rare Quality*

NUTLEY :: :: NEW JERSEY

## { *Monthly Review* }

### Menthol Remains Weak

Menthol continues to decline. The spot market is now at $4.00 and $4.15, a decline during the month of about 35c per lb. The downward trend of menthol has been steady and uninterrupted for many months. Bidding for orders has now become more pronounced than ever and is contributing to the general weakness.

Landings during January have gone to a larger number of importers with competition by the exceptional number of sellers causing the weakness. Spot stocks are not large here, however, and it is reported that replacement prices are higher. The condition of prices here being lower than for replacement has been reported for several months but has not resulted in a strengthening of the market.

Menthol production and consumption in France is practically impossible of estimation due to the fact that French trade in this product is of a highly speculative nature that results in very large quantities being purchased one year and practically none the following year, states Acting Commercial Attache Reagan, Paris, who says that large quantities of menthol are purchased from abroad and held in warehouse at Marseille for several years.

Mr. Reagan gives 50 tons per annum as the production of French synthetic menthol, and offers the following figures of French foreign menthol trade:

| | *Imports* | | *Exports* | |
|---|---|---|---|---|
| *Year* | *Metric Quintals* | *Francs* | *Metric Quintals* | *Francs* |
| 1926* | 260 | 9,462,000 | 197 | 4,668,000 |
| 1927* | 217 | 3,226,000 | 417 | 4,174,000 |
| 1928 | 249 | 2,343,000 | 213 | 2,227,000 |
| 1929 (9 mos.) | 180 | 2,288,000 | 205 | 2,796,000 |

*The figures for the years 1926 and 1917 include also small quantities of thymol. (Average value of franc in the above years, respectively: $0.0324, $0.0392, $0.0392, and $0.0391 United States currency).

### Registration of Proprietary Medicines in Costa Rica

The board of directors of the College of Pharmacists of San Jose, Costa Rica, by a decision approved November 24, 1929, has fixed a fee of 10 colones ($2.50 United States currency) for the registration of proprietary medicines.

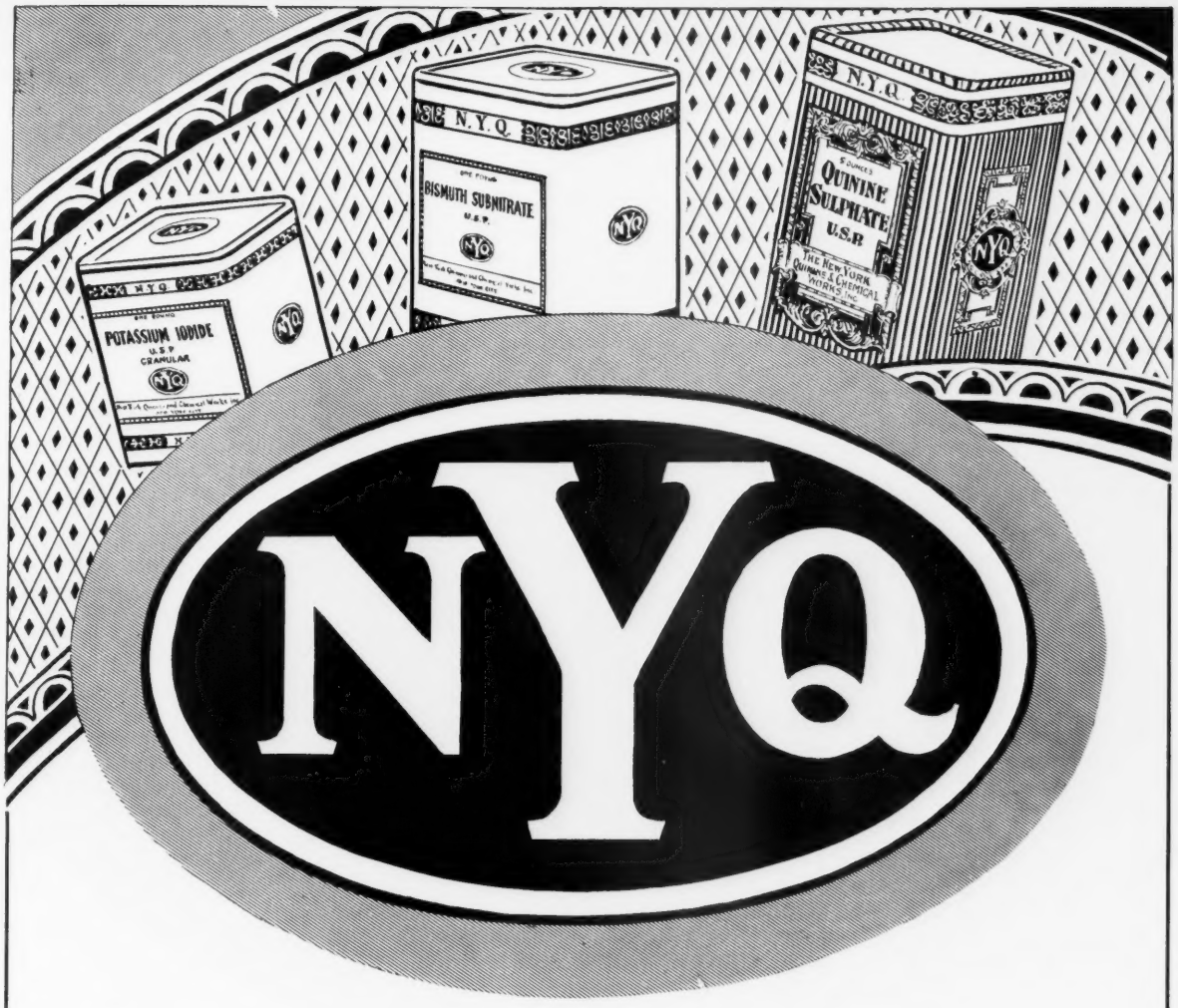
This fee, which must be previously deposited at the treasury of the college of pharmacists, may be refunded if the preparation is not accepted for registration and certification, provided it has not been found necessary to subject it to chemical analysis, in which case the deposit is forfeited.

### Less Swiss Exports

Exports of pharmaceutical and drug products from Switzerland during the first eight months of 1929 were valued at 34,599,000 francs (6,680,000) compared with 31,291,000 francs ($6,040,000) for the same period of 1928. Nearly all of the pharmaceuticals exported from Switzerland are manufactured within the Basel area.

The figures given above indicate that Basel manufacturers are increasing their production, and it is reported that the situation is on the whole fairly satisfactory, although Basel plants are forced to operate on a small margin of profit due to the low point which prices have reached as the result of competition between the various producing countries.

| | Current Market | | 1929-30 High | 1929-30 Low | 1928 High | 1928 Low |
|---|---|---|---|---|---|---|
| Colchicino Alk, USP, 1 oz vl | oz. | 20.00 | 20.00 | 20.00 | 20.00 | 20.00 |
| Salicylate, 1 oz vls | oz. | 35.50 | 35.50 | 35.50 | 35.50 | 35.50 |
| Cream Tartar, USP, 300 lb bbls | lb. | .27½ | .27¾ | .28 | .26½ | .28 | .26 |
| Imp. powd. 224 lb bbls. | lb. | .25½ | .25¾ | .27 | .25½ | .27¾ | .25½ |
| Creosote, USP, 42 lb cbys. | lb. | .40 | .42 | .42 | .40 | .42 | .40 |
| Carbonate, 150 lb | lb. | 1.50 | 1.60 | 1.60 | 1.50 | 1.60 | 1.50 |
| Cresol, USP, 400 lb drums | lb. | ..... | .20 | .20 | .20 | .20 | .20 |
| 500 lb drums | lb. | ..... | .20 | .20 | .20 | .20 | .20 |
| **DIGITALIN** Pure, 1 oz vial | oz | 15.00 | 15.50 | 15.50 | 15.00 | 15.50 | 15.00 |
| Dover's Powder, USP, 5 lb tin | lb. | 2.45 | 2.50 | 2.50 | 2.45 | 2.50 | 2.45 |
| Duboisine Sulfate, 1 oz vl | oz. | ..... | 30.07 | 30.07 | 30.07 | 30.07 | 30.07 |
| Emetine Alk, 15 gr vial | oz. | ..... | .85 | .85 | .85 | .85 | .85 |
| Hydrochloride, USP, 1 oz vl | oz. | 35.00 | 36.00 | 36.00 | 35.00 | 36.00 | 35.00 |
| 15 grain vials | oz. | 2.50 | 2.70 | 2.70 | 2.50 | 2.70 | 2.50 |
| Epsom Salts, USP, 200 lb bbls | 100 lb. | 2.25 | 2.50 | 2.50 | 2.25 | 2.50 | 1.85 |
| Imp. 100 lb bbls. | 100 lb. | 1.95 | 2.00 | 2.00 | 1.95 | 2.00 | 1.95 |
| Ergotin Bonjean, 1 lb jars | lb. | 18.50 | 19.00 | 19.00 | 18.50 | 21.00 | 15.25 |
| Eserine Alk, 1 oz vials | oz. | ..... | 50.00 | 50.00 | 50.00 | 40.00 | 40.00 |
| Salicylate, 1 oz vials | oz. | ..... | 40.00 | 40.00 | 40.00 | 40.00 | 40.00 |
| Sulfate, USP, VIII 1 oz vials | oz. | ..... | 40.00 | 40.00 | 40.00 | 40.00 | 40.00 |
| **ETHER,** USP, 55 lb drums | lb. | ..... | .16 | .18 | .16 | .16 | .15 |
| Anaesthesia, 55 lb drums | lb. | ..... | .23 | .23 | .23 | .21 | .20 |
| Nitrous, 1 lb bot | lb. | ..... | .80 | .98 | .80 | .95 | .95 |
| Ethyl Chloride, 200 lb bot | lb. | .22 | .24 | .24 | .22 | .25 | .22 |
| Ethyl Iodide, 5 lb bot | lb. | ..... | 6.25 | 6.25 | 6.25 | 6.25 | 6.25 |
| Formaldehyde, USP, 100 lb cbys | lb. | .09½ | .09¾ | .10½ | .09½ | .10 | .07½ |
| Ic-l wks. | lb. | .20 | .21 | .21 | .20 | .21 | .20 |
| Gall Extract | lb. | | | | | | |
| **GLANDULAR SUBSTANCES** | | | | | | | |
| Duodenal Substance, 1 lb lots | ..... | 5.50 | ..... | ..... | ..... | ..... |
| Liver Substance (Hepatic) 1 lb lots | ..... | 4.50 | ..... | ..... | ..... | ..... |
| Orchic Substance (Testicular) | ..... | 4.75 | ..... | ..... | ..... | ..... |
| Ovarian Substance, whole, 1 lb lots | ..... | 26.00 | ..... | ..... | ..... | ..... |
| Ovarian Residue, 1 lb lots | ..... | 20.00 | ..... | ..... | ..... | ..... |
| Pituitary Substance, whole 1 lb lots | ..... | 40.00 | ..... | ..... | ..... | ..... |
| Pituitary Substance, Anterior Lobe, 1 lb lots | ..... | 27.00 | ..... | ..... | ..... | ..... |
| Thyroid, U. S. P., 1 lb lots | ..... | 4.75 | ..... | ..... | ..... | ..... |
| Oxgall Powder, 1 lb lots | ..... | 1.35 | ..... | ..... | ..... | ..... |
| **GLYCERIN,** CP, 550 lb drums | lb. | ..... | .13½ | .15½ | .13½ | .19 | .15 |
| Gold Chloride, bottles | oz. | 12.00 | 12.50 | 12.50 | 12.00 | 12.50 | 12.00 |
| Guaiacol, liq. USP. 100 lb cbys. | lb. | 1.65 | 1.75 | 1.75 | 1.65 | 2.25 | 1.75 |
| Crystals | lb | 2.25 | 2.50 | 2.50 | 2.25 | 2.50 | 2.25 |
| Benzoate, 1 lb bottles | lb. | ..... | 13.00 | 13.00 | 13.00 | 3.00 | 13.00 |
| Carbonate, 5 lb boxes | lb. | 1.70 | 2.50 | 2.50 | 1.70 | 2.50 | 1.70 |
| Halazone, 5 lb bot | lb. | 2.75 | 3.25 | 3.25 | 2.75 | 3.25 | 2.75 |
| Hexamethylenetetramine, USP, 100 lb dr | lb. | .48 | .54½ | .62½ | .48 | .62½ | .52 |
| Homatropine Hydrobrom USP | oz. | ..... | 14.50 | 14.50 | 14.50 | 14.50 | 14.50 |
| 5 oz and 1 oz vials | oz. | | 13.50 | 13.50 | 13.50 | 13.50 | 13.50 |
| Hydrastine Alk, USP, 1 oz vial | oz. | 20.50 | 21.00 | 21.00 | 20.50 | 21.00 | 20.50 |
| Hydrochlide, USP, 1 oz vials | oz. | 20.50 | 21.00 | 21.00 | 20.50 | 21.00 | 20.50 |
| Sulfate, 1 oz vial | oz. | 22.50 | 23.00 | 23.00 | 22.50 | 23.00 | 22.50 |
| Hydrastinine Hydrochloride, USP, 15 gr vials | oz. | ..... | 40.00 | 40.00 | 40.00 | 40.00 | 40.00 |
| Hydrogen Peroxide, USP, soln 375 lb bbls | lb. | .03½ | .04½ | .04½ | .03½ | .05 | .03½ |
| Hyoscine Hydrobrom, USP, 1 oz vials | oz. | ..... | 13.57 | 13.57 | 13.57 | 13.57 | 13.57 |
| 5 oz, 1 oz vials | oz. | 13.07 | 13.57 | 13.57 | 13.57 | 13.57 | 13.07 |
| Hyoscyamine Alk, crystals, 1 oz vials | oz. | ..... | 25.07 | 25.07 | 25.07 | 25.07 | 25.07 |
| Amorphous, 1 oz vial | oz. | ..... | 75.07 | 75.07 | 75.07 | 75.07 | 75.07 |
| Hydrobromide, USP, 1 oz vial | oz. | ..... | 35.07 | 35.07 | 35.07 | 35.07 | 35.07 |
| Sulfate, 1 oz vial | oz. | ..... | 25.07 | 25.07 | 25.07 | 25.07 | 25.07 |
| Hypoquinone, 100 lb kegs | lb. | ..... | 1.20 | 1.25 | 1.20 | 1.25 | 1.25 |
| **ICHTHYOL,** tins | lb. | 4.00 | 4.25 | 4.25 | 4.00 | 4.25 | 4.00 |
| Iodide Arsenous, 5 lb bot | lb. | ..... | 5.20 | 5.20 | 5.20 | 5.20 | 5.20 |
| Arsenous-Mercuric soln, 5 lb bot | lb. | ..... | .26 | .26 | .26 | .26 | .26 |
| Iodine, crude, 200 lb kegs | lb. | 4.35 | 4.35 | 4.35 | 4.35 | 4.20 | 3.88 |
| Resublimed, 10 lb tars | lb. | 4.65 | 4.70 | 4.70 | 4.65 | 4.70 | 4.65 |
| Tincture demis | gal. | ..... | 4.50 | 4.80 | 4.50 | 4.65 | 4.55 |
| Iodoform, powd 10 lb bot | lb. | ..... | 6.00 | 6.00 | 6.00 | 6.00 | 6.00 |
| Iron & Ammonium Citrate, USP, 50 lb cans | lb. | .65 | .66 | .66 | .64 | .66 | .64 |
| Chloride, USP, lump 400 lb bbls | lb. | .06 | .08 | .08 | .06 | .08 | .05½ |
| Citrate, USP, VIII 25 lb can | lb. | .94 | 1.01 | 1.01 | .94 | 1.01 | .94 |
| Hypophosphite, 5 lb cans | lb. | 1.55 | 1.65 | 1.65 | 1.55 | 1.65 | 1.55 |
| Iodide, 1 lb bottles | lb. | ..... | 4.28 | 4.28 | 4.28 | 4.28 | 4.28 |
| Phosphate, USP, 50 lb cans | lb. | ..... | .69 | .69 | .69 | .69 | .69 |
| & Potas Oxalate, 250 lb bbl | lb. | ..... | .45 | .45 | .45 | .49 | .45 |
| Pyrophosphate, USP, 50 lb | lb. | .74 | .80 | .80 | .74 | .80 | .74 |
| & Sod Oxalate, 24 lb box | lb. | ..... | .30 | .30 | .30 | .30 | .30 |
| Sulfate, USP, crys bbls | lb. | .04½ | .04 | .04 | .04½ | .04 | .04½ |
| Ferrous dried bbls | lb. | ..... | .08 | .08 | .08 | .08 | .08 |
| Valerate, tins | lb. | 2.75 | 3.00 | 3.00 | 2.75 | 3.00 | 2.75 |




Acetanilid
Bismuth Subnitrate
Bismuth Subcarbonate
Cinchonine
Cinchona Alkaloids
Cinchophen
Codeine Sulphate
Codeine Phosphate
Cinchonidine
Morphine Sulphate
Ethyl Morphine
Iodoform
Glycerophosphates
Opium
Potassium Iodide
Quinine Sulphate
Quinidine
Thymol
Salicylates
Strychnine
Bromide of Soda
Bromide of Potash
Bromide of Ammonia
Silver Salts
Menthol-Y (trade mark reg.)
Vanillin

*In bulk for manufacturers and in packages for wholesale trade*

## The New York Quinine & Chemical Works

INCORPORATED

General Offices: 99-117 North Eleventh Street
New York Borough of Brooklyn

St. Louis Depot, 304 South 4th Street, St. Louis, Mo.

## { Monthly Review }

Exports of pharmaceuticals to the United States from the Basel district, were valued at $100,064 for the September quarter of 1929, against $107,006 for the June quarter of 1929 and $79,810 for the September quarter of 9128, states Vice Consul Albert W. Scott, Basel. The Swiss pharmaceutical industry is discussed in a recent publication entitled "The Chemical Industry and Trade of Switzerland," Trade Information Bulletin 664.

### The Japanese Market for American Antiseptics

In recent years the Japanese public has become more familiar with the uses of germicides in preventing infections and skin diseases, and as a result preparations employed for such purposes have undoubtedly gained in demand. The great difficulty encountered in placing a preparation of high quality on the market, however, is that its higher price creates a serious obstacle to sales because of the tendency of the public to buy the cheapest products obtainable. The manufacture of antiseptics and germicides has grown to such an extent that preparations of almost any description and comparable in purpose to those developed in the United States and Europe may be had at relatively low prices. In some cases well known foreign products have been duplicated and sold with some slight change in container, name, or brand.

There is, nevertheless, always a limited potential demand from the best class hospitals and physicians in the country for products of superior quality. (Consul Graham H. Kemper, Tokyo.)

### American Toilet Preparations Highly Regarded in British Malaya

The British Malayan market for perfumery and cosmetics though remarkably stable over the three year period, 1925-27, fell off in 1928 particularly insofar as American participation was concerned. However, statistics for the first six months of 1929 indicate a possible general expansion in sales during that year, with the United States securing a much larger share of the market than in the previous year. The following table shows total imports of perfumery and cosmetics into British Malaya during the period, 1925-1928, and the first six months of 1929, with the principal countries of origin for the years that such figures are available:

| | 1925 | 1926 | 1927 | 1928 | 1929* |
|---|---|---|---|---|---|
| United States | $240,281 | $302,142 | $186,740 | $88,898 | $90,143 |
| France | 650,729 | 671,354 | 650,936 | ..... | ..... |
| Germany | 320,584 | 317,866 | 401,981 | ..... | ..... |
| Europe | ..... | ..... | ..... | 990,417 | 735,943 |
| United Kingdom | 597,970 | 622,717 | 611,956 | 468,272 | 315,341 |
| Total | 2,552,806 | 2,833,344 | 2,632,338 | 2,077,616 | 1,444,540 |

*First six months.

### Cuban Production of Toiletries

In a recent display of toilet goods produced in Habana, Cuba, there were 18 different brands shown, covering toilet waters, dusting powders, eau de cologne, perfumed soaps, bath salts, and hair tonics, as well as four toothpastes and two mouth washes. There are also three brands of shaving cream put up locally. Practically all of the leading pharmacists in Habana put up lotions and eau de cologne under their own label.

| | Current Market | 1929-30 High | 1929-30 Low | 1928 High | 1928 Low |
|---|---|---|---|---|---|
| Jalap Resin, USP lumps, 5 lb tins....lb. | ..... | 4.00 | 4.00 | 4.00 | 4.00 |
| Powdered, tins....lb. | ..... | 4.65 | 4.65 | 4.65 | 4.65 |
| Lead Acetate, USP, 100 lb kegs ....lb. | .15 | .18 | .18 | .15 | .18 | .15 |
| Iodide, USP, VIII 5 lb bot..lb. | 3.20 | 3.40 | 3.40 | 3.20 | 3.40 | 3.20 |
| Lecithin, 5 oz jars....oz. | 1.00 | 1.30 | 1.30 | 1.00 | 1.30 | 1.00 |
| Licorice Ext Mass, cases....lb. | .19 | .20 | .20 | .14 | .20 | .14½ |
| Compound powder, bbls...lb. | .11 | .13 | .13 | .11 | .13 | .11 |
| **LITHIUM CARBONATE,** 250 lb bbls....lb. | 1.50 | 1.60 | 1.60 | 1.50 | 1.60 | 1.50 |
| Citrate, USP, 100 lb kegs..lb. | ..... | 1.70 | 1.70 | 1.70 | 1.70 | 1.70 |
| Iodide, 5 lb bottles....lb. | ..... | 5.40 | 5.40 | 5.40 | 5.40 | 5.40 |
| Lobeline Sulfate, ½ oz vial...oz. | ..... | 8.75 | 8.75 | 8.75 | 8.75 | 8.75 |
| Magnesium Carbonate, USP, 100 lb bbls....lb. | ..... | .10½ | .12 | .10½ | .12 | .12 |
| English, oz blocks....oz. | .16 | .18 | .18 | .16 | .18 | .16 |
| Glycerophosphate, 5 lb tins ....lb | 3.20 | 3.25 | 3.25 | 3.20 | 3.25 | 3.20 |
| Hypophosphite 5 lb cans..lb | ..... | 1.05 | 1.05 | 1.05 | 1.05 | 1.05 |
| Salicylate, 100 lb kegs....lb | ..... | 1.10 | 1.10 | 1.10 | 1.10 | 1.10 |
| Stearate, bbls....lb. | .23 | .25 | .25 | .23 | .25 | .23 |
| Manganese Glycerophosphate, 5 lb tins....lb. | 2.90 | 3.00 | 3.00 | 2.90 | 3.00 | 2.90 |
| Hypophosphite, USP, VIII 5 lb cans....lb. | 1.35 | 1.40 | 1.40 | 1.35 | 1.40 | 1.35 |
| Iodide, 1 lb bottles....lb. | 6.40 | 6.65 | 6.65 | 6.40 | 6.65 | 6.40 |
| **MENTHOL,** USP, 60 lb cases ....lb. | 4.00 | 4.15 | 6.00 | 4.00 | 6.25 | 4.10 |
| Synthetic, cases....lb. | 3.00 | 3.25 | 3.25 | 3.00 | 3.50 | 3.00 |
| Mercury Metal, 75 lb flasks...fl. | 124.00 | 124.50 | 126.00 | 121.50 | 134.00 | 120.00 |
| Bichloride, crys 25 lb box...lb. | ..... | 1.81 | 1.81 | 1.81 | 1.81 | 1.81 |
| Gran powd, 100 lb kegs..lb. | ..... | 1.65 | 1.65 | 1.65 | 1.65 | 1.65 |
| Bisulfate, 25 lb boxes....lb. | ..... | 1.62 | 1.62 | 1.62 | 1.62 | 1.62 |
| Blue Mass, 25 lb boxes....lb. | ..... | 1.03 | 1.03 | 1.03 | 1.03 | 1.03 |
| Powd, 25 lb boxes....lb. | ..... | 1.04 | 1.04 | 1.04 | 1.04 | 1.04 |
| Blue Ointment, USP, 50%, 25 lb cans....lb. | ..... | 1.29 | 1.29 | 1.29 | 1.29 | 1.29 |
| Mild 30%, 25 lb cans....lb. | ..... | .92 | .92 | .92 | .92 | .92 |
| 33 1/3% mercury....lb. | ..... | .94 | .94 | .94 | .94 | .94 |
| Calomel, 50 lb boxes....lb. | ..... | 2.05 | 2.05 | 2.05 | 2.05 | 2.05 |
| English....lb. | 2.75 | 2.80 | 2.80 | 2.75 | 2.80 | 2.75 |
| Iodide, green, 25 lb jars....lb. | ..... | 4.80 | 4.80 | 4.80 | 4.80 | 4.80 |
| Red, USP, 25 lb jars....lb. | ..... | 4.89 | 4.89 | 4.89 | 4.89 | 4.89 |
| Yellow, USP, VIII, 25 lb jars....lb. | 4.80 | 4.80 | 4.80 | 4.80 | 4.80 | 4.80 |
| Red precip, USP, 25 lb boxes ....lb. | 2.17 | 2.17 | 2.17 | 2.17 | 2.17 | 2.17 |
| Powd., USP, 25 lb boxes.lb. | 2.17 | 2.17 | 2.17 | 2.17 | 2.17 | 2.17 |
| White precip, USP, 25 lb boxes....lb. | ..... | 2.20 | 2.20 | 2.20 | 2.20 | 2.20 |
| Powd., USP, 25 lb boxes.lb. | ..... | 2.25 | 2.25 | 2.25 | 2.25 | 2.25 |
| Salicylate, 25 lb bot....lb. | ..... | 2.32 | 2.32 | 2.32 | 2.32 | 2.32 |
| With chalk, USP, 25 lb boxes ....lb. | ..... | .93 | .93 | .93 | .93 | .93 |
| Methanol, Pure 1c-1 drs....gal. | ..... | .57 | .57 | .57 | .60 | .48 |
| Methyl Salicylate, USP, 50 lb cans....lb. | .40 | .42 | .45 | .40 | .45 | .42 |
| Methylene Blue, USP, med 5 lb cans....lb | 2.00 | 2.05 | 2.05 | 2.00 | 2.05 | 2.00 |
| Milk powd, 150 lb bbls....lb. | .14 | .15 | .15 | .14 | .15 | .14 |
| **MORPHINE** Alk, 5 oz tin...oz. | ..... | 11.35 | 11.35 | 9.85 | 10.15 | 9.85 |
| Acetate, 5 oz tins....oz. | ..... | 9.35 | 9.35 | 7.85 | 8.25 | 7.85 |
| Hydrobromide, 5 oz tins, 10 oz lots....oz. | ..... | 9.35 | 9.35 | 7.85 | 8.35 | 7.85 |
| Hydrochloride, 5 oz tins, 10 oz lots....oz. | ..... | 9.25 | 9.25 | 7.85 | 8.35 | 7.85 |
| Ethyl Hydrochloride, 5 oz tins 10 oz lots....oz. | ..... | 10.85 | 10.85 | 9.35 | 9.85 | 9.35 |
| Sulfate, 5 oz tins, 10 oz lots ....oz. | ..... | 8.85 | 8.85 | 7.85 | 8.35 | 7.85 |
| Naphthalene Flake, 175 lb bbls wks....lb. | .04½ | .05 | .05 | .04½ | .05 | .04½ |
| Balls, 250 lb bbls wks....lb. | .05½ | .06 | .06 | .05½ | .06 | .05½ |
| Oxgall, Purified, 5 lb bot....lb. | 1.75 | 2.50 | 2.50 | 1.75 | 2.50 | 1.75 |
| USP, 5 lb bot....lb. | 2.00 | 2.50 | 2.50 | 2.00 | 2.50 | 2.00 |
| Oxyquinoline Sulfate, tins...lb. | 8.50 | 9.25 | 9.25 | 8.50 | 9.25 | 8.50 |
| Pancreatin, USP, 100 lb....lb. | ..... | 1.90 | 1.90 | 1.90 | ..... | ..... |
| Paraffin, refd, 200 lb cs slabs 118-120 deg MP....lb. | .08 | .09 | .09 | .08 | .09 | .08 |
| 128-132 deg MP....lb. | .07½ | .07¾ | .07¾ | .07½ | .07¾ | .07½ |
| Para-Aldehyde, USP, 100 gal drums....lb. | .67 | .77 | .77 | .67 | .77 | .67 |
| Pepsin, USP, 100 lbs. 1:3000.lb. | ..... | 2.25 | 2.25 | 2.25 | 2.50 | 2.50 |
| 100 lbs. 1:6000....lb. | ..... | 4.00 | 4.00 | 4.00 | 5.00 | 5.00 |
| 100 lbs. 1:10000....lb. | ..... | 6.50 | 6.50 | 6.50 | 8.35 | 8.35 |
| Peptone, powd, 5 lb bot....lb. | ..... | ..... | ..... | ..... | ..... | ..... |
| **PHENOLPHTHALEIN,** USP, 100 lb drums....lb. | 1.10 | 1.20 | 1.20 | 1.10 | 1.20 | 1.10 |
| 5 lb cans 100 lb lots..lb. | 1.23 | 1.30 | 1.30 | 1.23 | 1.30 | 1.23 |
| Pilocarpine Hydrochloride, USP, 1 oz vials 25 oz lots ....oz. | ..... | 3.25 | 3.25 | 3.25 | 3.25 | 3.25 |
| Nitrate, 25 oz lots....oz. | ..... | 3.25 | 3.25 | 3.25 | 3.25 | 3.25 |
| Single ounce....oz. | ..... | 3.50 | 3.50 | 3.50 | 3.50 | 3.50 |
| Alkaloid, 15 gr vials....vl. | ..... | .75 | .75 | .75 | .75 | .75 |
| Piperazine Hydrate, 1 lb bot.lb. | ..... | 15.00 | 15.00 | 15.00 | 15.00 | 15.00 |
| Piperadine, 25 oz bottles....lb. | ..... | 8.00 | 8.00 | 8.00 | 8.00 | 8.00 |
| Popodhyllin 5 lb bottles....lb. | 4.35 | 4.50 | 4.50 | 4.35 | 4.50 | 4.35 |
| Potassium Acetate, USP, 100 lb kegs....lb. | .29 | .30 | .30 | .29 | .30 | .29 |
| Bicarb, USP, crys 320 lb bbls ....lb. | .13 | .13½ | .13½ | .08½ | .09 | .08½ |
| Bromide, USP, crys 100 lb cs ....lb. | .42 | .43 | .40 | .39 | .43 | .42 |
| Citrate, USP, 50 lb bbl....lb. | .51 | .53 | .55 | .51 | .55 | .51 |
| Guaiacol Sulfonate....lb. | 1.95 | 2.25 | 2.25 | 1.95 | 2.25 | 1.95 |

# CHLOROPHYLL

(Dr. F. Wilhelmi, Taucha Bez Leipzig)

YOU can find no color comparable to the natural leaf green and none so practical. Chlorophyll is the natural green of leaves. Dr. Wilhelmi's Chlorophyll is a pure vegetable product, Light proof and Alkali proof. It is used for coloring where for sanitary or other reasons an artificial dye is unsuitable.

It is supplied in various types depending on the degree to which the raw Chlorophyll is concentrated and the method of processing. Theoretically, the highest purity or concentration is the most economical, but for some purposes a weaker product may be more desirable. Let us show you the type best suited to your requirements.

**Oil Soluble**

For coloring vegetable oils, soaps, wax preparations, etc. For bleaching yellowish oils and soaps.

**Alcohol and Water Soluble**

For coloring preparations testing less than 70% by volume of alcohol.

**Alcohol Soluble**

For coloring preparations testing over 70% by volume of alcohol.

**Water Soluble**

A new powdered chlorophyll of tremendous strength for coloring pure water preparations.

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## { *Monthly Review* }

### Cochineal Imports Greater

Increased imports of cochineal entered for consumption into the United States during the calendar years 1924 to 1928 and the first nine months of 1929 have been as follows:

| *Year* | *Pounds* | *Value* |
|---|---|---|
| 1924 | 95,368 | $30,626 |
| 1925 | 150,022 | 53,703 |
| 1926 | 153,658 | 52,648 |
| 1927 | 127,482 | 63,049 |
| 1928 | 108,582 | 59,642 |
| 1929 (9 months) | 155,471 | 81,427 |

Poland is a producer of many botanical drugs, and, while this industry is not yet widely developed, a considerable part of the demand is supplied from domestic sources. There is, however, a large importation of prepared botanical drugs from Germany owing to the fact that until quite recently there was no organization in Poland engaged in the preparation for medicinal purposes of botanicals grown in the country.

Aconite, belladonna, and digitalis are found in abundance in Poland. Recently, a union of polish producers of industrial and medicinal plants was organized, with the support of the Government, in order that some action could be taken for the proper exploitation of domestic resources of botanical drugs. A superficial survey of the situation revealed the fact that not only can the entire domestic demand in certain lines be covered by local production but that large quantities of certain medicinal plants may be exported. This union, therefore, established a firm under the name of "Syndicat de Commerce et d'Exportation des Plantes Industrielles et Medicinales," to develop both domestic sales and exports of drugs produced by members of the union. Incidentally, the "Syndicat" is also interested in importing noncompeting drugs from abroad.

It is stated that the Government proposes to place the trade in drugs on a concession basis shortly, and that only a few firms will obtain the concession.

One of the principal factors to consider in entering the Polish market is the competition which one will meet from German exporters. Their prices are usually low, but this is of relatively slight importance as compared with the credit terms they offer. (Commercial Attache Clayton Lane, Warsaw.)

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Mercury remains unchanged in price at $124.00 per flask. Demand is reported as fairly active so that the undertone is strong at these figures. Abroad, the Spanish-Italian monopoly still holds the reins with a steady determination to keep the market at a high level.

Rochelle Salt is lower at 22c per lb. Price has declined 1c per lb. due to a lower cost for raw material. Demand is normal.

Linaloe is lower at $2.10 per lb. off 10c per lb. from the high quotation of last month. This is reported in some sources as a normal fluctuation. Stocks are ample for any normal requirements with demand routine.

| | Current Market | 1929-30 High | 1929-30 Low | 1928 High | 1928 Low |
|---|---|---|---|---|---|
| Potassium Hypophosphite, 10 lb. cans ..... lb. | .80 | .85 | .85 | .80 | .85 | .80 |
| Iodide, USP, 100 lb cases .. lb. | 3.25 | 3.30 | 3.55 | 3.25 | 3.80 | 3.25 |
| Lactophosphate, 4 oz bot .. lb. | ..... | .90 | .90 | .90 | .90 | .90 |
| Permangan, USP, crys, 100 lb drs wks ..... lb. | .15 | .15½ | .15½ | .15 | .16½ | .14½ |
| Phosphate dibasic pure, kegs ..... lb. | ..... | .49 | .49 | .49 | .49 | .49 |
| Salicylate, 25 lb cans ..... lb. | ..... | 1.18 | 1.18 | 1.18 | 1.18 | 1.18 |
| Sulfate, USP, VIII, 100 lb kegs ..... lb. | .13 | .15 | .15 | .13 | .15 | .13 |
| Sulfocyanide, CP 15 lb jars lb. | ..... | .50 | .50 | .50 | .50 | .50 |
| Tartrate, CP, tins ..... lb. | ..... | .65 | .65 | .65 | .65 | .65 |
| Pyrogallol, USP, see Acid Pyrogallic ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Quinidine Alk, 100 oz tins ... oz. | .70 | .75 | .75 | .70 | .75 | .70 |
| Sulfate, 100 oz tins ..... oz. | ..... | .50 | .50 | .50 | .50 | .50 |
| **QUININE SULFATE**, USP, 100 oz tins ..... oz. | ..... | .40 | .40 | .40 | .40 | .40 |
| 1 oz tins, 100 oz lots .... oz. | ..... | .47 | .47 | .47 | .47 | .47 |
| Dutch, 100 oz tins ..... oz. | ..... | .40 | .40 | .40 | .40 | .40 |
| Java, 100 oz. tins ..... oz. | ..... | .40 | .40 | .40 | .40 | .40 |
| Japanese 100 oz tins ..... oz. | ..... | .40 | .40 | .40 | .40 | .40 |
| Acetate ..... oz. | ..... | .78 | .78 | .78 | .78 | .78 |
| Arsenate ..... oz. | ..... | .78 | .78 | .78 | .78 | .78 |
| Benzoate ..... oz. | ..... | .78 | .78 | .78 | .78 | .78 |
| Bisulfate, USP ..... oz. | ..... | .40 | .40 | .40 | .40 | .40 |
| Resale ..... oz. | ..... | .39 | .39 | .37 | .39 | .37 |
| Citrate ..... oz. | ..... | .51 | .51 | .51 | .51 | .51 |
| Dicarbonate, 1 oz tins .... oz. | ..... | 2.56 | 2.56 | 2.56 | 2.56 | 2.56 |
| Dihydrobromide ..... oz. | ..... | .54 | .54 | .54 | .54 | .54 |
| Dihydrochloride, USP .... oz. | ..... | .54 | .54 | .54 | .54 | .54 |
| Ethyl Carbonate, 16 oz tins ..... oz. | ..... | .58 | .58 | .58 | .58 | .58 |
| Ferrocyanide ..... oz. | ..... | .78 | .78 | .78 | .78 | .78 |
| Formate ..... oz. | ..... | .73 | .73 | .73 | .73 | .73 |
| Glycerophosphate ..... oz. | ..... | .80 | .80 | .80 | .80 | .80 |
| Hydrobromide, USP ..... oz. | ..... | .50 | .50 | .50 | .50 | .50 |
| Hydrochlorosulfate ..... oz. | ..... | .54 | .54 | .54 | .54 | .54 |
| Hydrochloride & Urea, USP ..... oz. | ..... | .74 | .74 | .74 | .74 | .74 |
| Hypophosphite ..... oz. | ... | .70 | .70 | .70 | .70 | .70 |
| Lactate ..... oz. | ..... | .66 | .66 | .66 | .66 | .66 |
| Phenolsulfonate ..... oz. | ..... | .78 | .78 | .78 | .78 | .78 |
| Phosphate ..... oz. | ..... | .62 | .62 | .62 | .62 | .62 |
| Salicylate, USP ..... oz. | ..... | .52 | .52 | .52 | .52 | .52 |
| Tannate, USP ..... oz. | ..... | .41 | .41 | .41 | .41 | .41 |
| Tartrate ..... oz. | ..... | .78 | .78 | .78 | .78 | .78 |
| Valerate ..... oz. | ..... | .78 | .78 | .78 | .78 | .78 |
| & Urea Hydrochloride, USP ..... oz. | ..... | .88 | .88 | .88 | .88 | .88 |
| Rennet, N. F. 5 lb 1:25,000 ... lb. | 2.95 | 3.50 | 3.50 | 2.95 | 3.50 | 2.95 |
| Resorcinol, USP, 25 lb cans .. lb. | 1.60 | 1.65 | 1.75 | 1.65 | 2.00 | 1.70 |
| Rochelle Salt, USP, 225 lb bbl ..... lb. | .22 | .22½ | .23½ | .22 | .23½ | .23 |
| Imp. USP, 300 lb bbls ..... lb | ..... | .23 | .23 | .23 | .23 | .23 |
| Rock Sugar, 5 lb boxes ..... lb. | ..... | .15 | .15 | .15 | .15 | .15 |
| Saccharin, USP, 10 lb cans ... lb. | 1.70 | 1.80 | 1.80 | 1.70 | 1.80 | 1.70 |
| USP, Soluble, 10 lb cans ... lb. | 1.75 | 1.85 | 1.85 | 1.75 | 1.85 | 1.75 |
| Salicin, USP ..... lb. | ..... | 9.31 | 9.31 | 4.86 | 4.86 | 4.86 |
| **SALOL**, USP, 100 lb drums .. lb. | ..... | .90 | .90 | .90 | .90 | .90 |
| Saltpetre, powd, bbls wks .... lb. | .06½ | .08½ | .08½ | .06½ | .08½ | .06½ |
| Santonin, USP, bulk ..... lb. | 123.00 | 133.00 | 133.00 | 129.50 | 145.00 | 129.50 |
| Saponin, refined ..... lb. | 1.30 | 1.50 | 1.50 | 1.30 | 1.50 | 1.30 |
| Siedlitz Mixture, 250 lb bb .. lb. | ..... | .17½ | .17½ | .17½ | ..... | ..... |
| Silver Metal, American ..... oz. | ..... | .57½ | .57½ | .57½ | .60½ | .57½ |
| Iodide, 16 oz lots ..... oz. | ..... | .69 | .69 | .69 | .69 | .69 |
| Nitrate, 100 oz bottles .... oz. | .33 | .35 | .42½ | .33 | .45 | .40½ |
| Nucleinate, bulk ..... oz. | ..... | .37 | .37 | .37 | .37 | .37 |
| Proteinate ..... oz. | ..... | .32 | .32 | .32 | .32 | .32 |
| **SODIUM BENZOATE**, USP, 100 lb bbls ..... lb. | .45 | .49 | .49 | .45 | .55 | .50 |
| Bromide, USP, 100 lb kegs lb. | .42 | .43 | .43 | .42 | .43 | .42 |
| Cacodylate, USP, 25 lb bot ..... lb. | 4.75 | 5.90 | 5.90 | 4.75 | 6.10 | 4.75 |
| Citrate, USP, X 50 lb kegs lb. | .45 | .47 | .47 | .45 | .47 | .45 |
| USP VIII, 50 lb kegs .... lb. | .38 | .40 | .40 | .38 | .40 | .38 |
| Glycerophosphate, USP, crys 25 lb cans ..... lb. | 1.40 | 1.55 | 1.55 | 1.40 | 1.55 | 1.40 |
| Powder, 25 lb tins ..... lb. | 1.45 | 1.60 | 1.60 | 1.45 | 1.60 | 1.45 |
| Soln, USP, 25 lb tins .... lb. | 1.05 | 1.20 | 1.20 | 1.05 | 1.20 | 1.05 |
| Hypophosphite, USP, 25 lb cans ..... lb. | .70 | .75 | .75 | .70 | .75 | .70 |
| Iodide, USP, 25 lb jars .... lb. | 4.25 | 4.30 | 4.30 | 4.25 | 4.30 | 4.25 |
| Phosphate (Mono-Sodium), 100 lb kegs ..... lb. | .30 | .31 | .31 | .30 | .31 | .30 |
| Di-Sodium USP, granular, 275 lb bbls ..... lb. | .07½ | .08 | .08 | .07½ | .08 | .07½ |
| Pyrophosphate, 100 lb kegs ..... lb. | ..... | .29 | .29 | .29 | .29 | .29 |
| Salicylate, 100 lb kegs .... lb. | ..... | .47 | .47 | .47 | .47 | .47 |
| Sulfocarbolate, USP, 100 lb kegs ..... lb. | ..... | .31 | .31 | .31 | .31 | .31 |
| Sulfocyanate, CP crys, jars included ..... lb. | ..... | .60 | .60 | .60 | .60 | .60 |
| Spartein Sulfate, USP, 25 oz bulk ..... oz. | .65 | .70 | .70 | .60 | .70 | .60 |
| Single oz vial ..... oz. | .77 | .90 | .90 | .77 | .90 | .77 |
| **STRONTIUM BROMIDE** USP, 50 lb kegs ..... lb. | .51 | .52 | .52 | .51 | .52 | .51 |
| Carb, 100 lb kegs wks .... lb. | ..... | .20 | .20 | .20 | .20 | .20 |
| Iodide, USP, 25 lb jars .... lb. | ..... | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| Lactate, kegs ..... lb. | .90 | 1.10 | 1.10 | .90 | 1.10 | .90 |
| Nitrate, 600 lb bbls NY ... lb. | .08 | .08½ | .08½ | .08 | .08½ | .08 |
| Imp. bbls NY ..... lb. | .08 | .08½ | .08½ | .08 | .08½ | .08 |
| Salicylate, USP, 100 lb keg lb. | ..... | 1.10 | 1.10 | 1.10 | 1.10 | 1.10 |

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Ammonium Iodide
Thymol Iodide
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## { Monthly Review }

### Gum Arabic Strengthens

The market in gum arabic here is very strong. Price has advanced 5c per lb. and gum is now being offered at 25c and 27c per lb. for amber sorts.

The strength in the spot market is due to reports coming from abroad to the effect that unseasonable weather again prevails in the Sudan with the result that the crop has not progressed as it should. Gum is being received only in small lots and a rather poor quality. It must be remembered that the gum flows freely only under intense heat. The short crop gathered last year, with the resulting high price for gum that prevailed almost through the entire year, was attributed solely to the cold that prevailed in the gum country.

With the beginning of January, new crop stocks usually begin to arrive in the primary market in quantity. On the strength of this the spot market here began the year with general recessions, price declining to 20c per lb., as most dealers thought it advisable to decrease supplies of old crop gum on hand. Gum was freely offered here resulting in a sharply declining market in spite of the fact that the primary market was uncertain and price advanced there ½c per lb.

Dealers here are unable to prophesy the result should reports eminating from the primary market continue unsatisfactory. Price advanced last year to a high of 32c which represented a peak price for many years. Stocks are reported here as being light so that the situation at present looks serious. However, gum is gathered up until about June so that there is ample time for a good crop should the weather moderate.

---

### Citronella Oil Offered

A firm located in Batavia, Java, claims to be able to supply citronella oil in any quantity. American firms that wish to make such connections are safeguarded by a local law which required that all shipments of citronella oil shall be analyzed by the Government before export is permitted. The Government analysis is always sent with the shipping papers. (Consul Joseph Groeninger, Batavia.) The name of this firm is available to accredited American firms upon application to the Chemical Division

---

Belgium ranks tenth among the European countries purchasing American toilet preparations. Purchases during 1929 were valued at $166,000 or approximately six times as great as in 1922.

In connection with the Belgium market for American toilet preparations, it is of interest to note that Assistant Commercial Attache L. A. Hunt, Brussels, recently succeeded in placing an agency for American toilet preparations with a Belgian firm who seems to have been already exceptionally successful in launching the products, placing important orders with most of the outstanding beauty shops and department stores in Brussels and other Belgian cities.

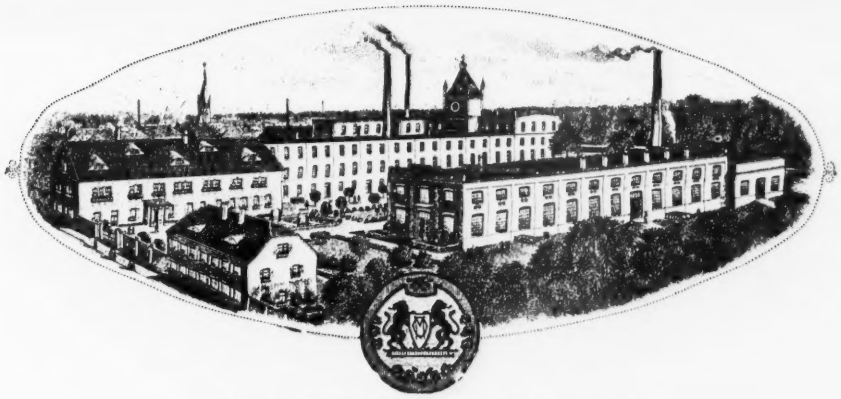
| | Current Market | 1929-30 High | 1929-30 Low | 1928 High | 1928 Low |
|---|---|---|---|---|---|
| Strophanthin, USP, 1 oz vial.oz. | ..... | 19.00 | 19.00 | 19.00 | 19.00 |
| Crystals .....lb. | ..... | 75.00 | 75.00 | 75.00 | 75.00 |
| Strychnine Alk, USP crys, 100 oz tins.....oz. | ..... | .61 | .66 | .61 | .66 | .56 |
| Powdered.....oz. | ..... | .51 | .56 | .51 | .56 | .46 |
| Acetate.....oz. | ..... | .65 | .65 | .65 | .65 | .55 |
| Arsenate, 25 oz cans.....oz. | ..... | .65 | .65 | .65 | .65 | .55 |
| Glycerophosphite, USP,...oz. | ..... | .65 | .65 | .65 | .65 | .55 |
| Hydrobromide.....oz. | ..... | .65 | .65 | .65 | .65 | .55 |
| Hydrochloride.....oz. | ..... | .65 | .65 | .65 | .65 | .55 |
| Hypophosphite.....oz. | ..... | .75 | .75 | .75 | .75 | .65 |
| Nitrate, USP.....oz. | .55 | .72 | .72 | .55 | .72 | .52 |
| Phosphate.....oz. | ..... | .65 | .65 | .65 | .65 | .55 |
| Sulfate, USP, powd .....oz. | ..... | .42 | .56 | .42 | .56 | .38 |
| Sugar, refined, 275 lb bbl 100 lb | 5.80 | 5.90 | 5.90 | 5.80 | 5.90 | 5.80 |
| Milk, USP, 200 lb bbls. . lb. | .18 | .20 | .20 | .18 | .20 | .18 |
| Sulfonethylmethane, USP, 10 lb boxes.....lb. | 3.85 | 4.05 | 4.05 | 3.85 | 4.05 | 3.85 |
| Sulonmethane, USP, 10 lb box .....lb. | 2.65 | 3.85 | 3.85 | 2.65 | 3.85 | 2.65 |
| Sulfur flwrs. washed, USP, 125 lb bbl .....lb. | ..... | .06 | .06 | .06 | .06 | .06 |
| Iodide, USP, VIII, 5 lb bot lb. | ..... | 4.55 | 4.55 | 4.55 | 4.55 | 4.55 |
| **TARTAR EMETIC,** USP, 300 lb bbls.....lb. | .31½ | .33½ | .33½ | .29 | .36 | .32½ |
| Terebene, tins.....lb. | ..... | .85 | .85 | .85 | .85 | .85 |
| Terpin Hydrate, USP, 100 lb kegs.....lb. | .40 | .42 | .42 | .40 | .47 | .40 |
| Theobromine Alk, 5 lb cans. .lb. | 1.90 | 2.25 | 2.25 | 1.90 | 2.25 | 1.90 |
| Sod. Salicylate, 1 lb bot. . .lb. | ..... | 2.10 | 2.10 | 2.10 | 2.10 | 2.10 |
| Sod. Benzoate, 1 oz vials. .oz. | ..... | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Thymol, USP, 25 lb tins.....lb. | 2.00 | 2.25 | 2.70 | 2.00 | 2.75 | 2.25 |
| Iodide kegs.....lb. | 6.00 | 7.00 | 7.00 | 6.00 | 7.00 | 6.50 |
| Veratrine Alkaloid.....oz. | ..... | 2.25 | 2.25 | 2.25 | 2.25 | 2.25 |
| Sulfate, 1 oz vials.....oz. | ..... | 2.25 | 2.25 | 2.25 | 2.25 | 2.25 |
| Witch Hazel Ext., 50 gal bbl .....gal. | .60 | .80 | 1.00 | .60 | 1.00 | .80 |
| Zinc Carb, USP, 100 lb keg. .lb. | .28 | .31 | .31 | .28 | .31 | .28 |
| Chloride, USP, 25 jars ex. .lb. | .24 | .29 | .29 | .24 | .29 | .24 |
| Iodide, 5 lb bottles.....lb. | ..... | 5.22 | 5.22 | 5.22 | 5.22 | 5.22 |
| Oxide, USP, 100 lb bbls. . .lb. | .16½ | .17½ | .18 | .16½ | .18 | .17 |
| Stearate, USP, 50 lb bbl. .lb. | .24 | .26 | .26 | .24 | .26 | .22 |
| Sulfate, USP, 100 lb bbl. .lb. | .08 | .09 | .09 | .08 | .09 | .08 |
| Sulfocarbolate, 100 lb kegs. .lb. | .23 | .29 | .29 | .23 | .29 | .29 |

## Natural Derivatives

| | | | | | | |
|---|---|---|---|---|---|---|
| Anethol, 2 lb bot.....lb. | 1.25 | 1.30 | 1.30 | 1.25 | 1.30 | 1.25 |
| Borneol, 1 lb bot.....lb. | 2.40 | 2.50 | 2.50 | 2.40 | 2.60 | 2.40 |
| Carvol, 5 lb bot.....lb. | 3.50 | 3.60 | 3.60 | 3.50 | 2.85 | 3.50 |
| Citral, 25 lb cans.....lb. | 2.70 | 2.75 | 2.75 | 2.70 | 2.75 | 2.70 |
| Citronellal, 1 lb bot.....lb. | 2.70 | 2.75 | 2.75 | 2.70 | 3.25 | 2.70 |
| Eucalyptol, USP, 50 lb cans. .lb. | 1.00 | 1.05 | 1.05 | 1.00 | 1.05 | 1.00 |
| Eugenol, USP, 25 lb cans. ...lb. | 2.70 | 2.75 | 2.75 | 2.70 | 2.90 | 2.70 |
| Geraniol, domestic, 50 lb cases .....lb. | 2.50 | 2.70 | 2.70 | 2.50 | 2.70 | 2.50 |
| Imported, 5 lb bot.....lb. | 2.90 | 3.10 | 3.10 | 2.90 | 3.10 | 2.90 |
| Iso-Eugenol, 1 lb bot.....lb. | 3.75 | 3.80 | 3.80 | 3.75 | 4.50 | 3.75 |
| Imported, 1 lb bot.....lb. | 3.70 | 3.80 | 3.80 | 3.70 | 3.80 | 3.70 |
| Linalol from Bois de Rose, 5 lb bot.....lb. | 3.20 | 3.25 | 3.25 | 3.20 | 3.25 | 3.00 |
| Rhodinol, 1 lb bot.....lb. | 7.50 | 7.75 | 7.75 | 7.50 | 7.75 | 6.00 |
| Saffrol, drums.....lb. | ..... | .27 | .27 | .27 | .27 | .27 |
| 60 lb cans.....lb. | ..... | .29 | .29 | .29 | .29 | .29 |

## Synthetic Aromatics

| | | | | | | |
|---|---|---|---|---|---|---|
| Acetophenene, CP, 1 lb bot. .lb. | 3.50 | 3.65 | 3.65 | 3.50 | 3.75 | 3.50 |
| Aldehyde, C 8 (Otcyl) 1 lb bot .....lb. | ..... | 50.00 | 55.00 | 50.00 | 55.00 | 55.00 |
| C 7, 1 lb bot.....lb. | 4.50 | 5.50 | 5.50 | 4.50 | 5.50 | 4.50 |
| C 9 (Nonyl), 1 lb bot ....lb. | ..... | 140.00 | 140.00 | 140.00 | 140.00 | 140.00 |
| C 10 (Decyl), 1 lb bot....ib. | ..... | 48.00 | 48.00 | 48.00 | 48.00 | 48.00 |
| C 14, 1 lb bot.....lb. | ..... | 32.00 | 32.00 | 22.50 | 25.00 | 22.50 |
| C 16, 1 lb bot.....lb. | ..... | 24.00 | 32.00 | 24.00 | 80.00 | 31.00 |
| Aubepine, see Anisic Aldehyde | | | | | | |
| **AMYL ACETATE,** pure, 5 gal cans.....gal. | 5.50 | 6.85 | 6.85 | 4.75 | 5.50 | 4.75 |
| Butyrate, 1 lb bot.....lb. | 1.70 | 1.75 | 1.75 | 1.70 | 1.90 | 1.70 |
| Butyrate, 5 lb bot.....lb. | ..... | 1.75 | 1.75 | 1.75 | 1.75 | 1.75 |
| Cinnamate, 5 lb bot.....lb. | 9.50 | 9.75 | 9.75 | 9.50 | 9.75 | 9.50 |
| Formate, 1 lb bot.....lb. | ..... | 1.90 | 1.90 | 1.90 | 1.90 | 1.90 |
| Formate, 5 lb bot.....lb. | ..... | 1.75 | 1.75 | 1.75 | 1.75 | 1.75 |
| Phenyl Acetate, 1 lb bot...lb. | 4.50 | 5.00 | 5.00 | 4.50 | 5.00 | 4.50 |
| Salicylate, 100 lb cbys.....lb. | 1.25 | 1.30 | 1.30 | 1.25 | 1.30 | 1.25 |
| Imported.....lb. | 2.25 | 2.50 | 2.50 | 2.25 | 2.50 | 2.25 |
| Anisic Aldehyde, 1 lb bot. ...lb. | 3.00 | 3.25 | 3.25 | 3.00 | 3.25 | 3.00 |
| Benzaldehyde, USP, 40 lb cbys .....lb. | ..... | ..... | ..... | ..... | ..... | ..... |
| 50 lb cbys.....lb. | 1.25 | 1.35 | 1.35 | 1.25 | 1.35 | 1.25 |
| FFC, 40 lb cbys.....lb. | 1.35 | 1.45 | 1.45 | 1.35 | 1.45 | 1.35 |
| Benzoic Ether, see Ethyl Benzoate..... | | | | | | |
| Benzophenone, 1 lb bot.....lb. | 4.50 | 5.00 | 5.00 | 4.50 | 5.00 | 4.50 |
| Benzyl Acetate, 100 lb cbys..lb. | .90 | 1.10 | 1.10 | .90 | 1.10 | .90 |
| Alcohol, 5 lb bot.....lb. | 1.25 | 1.35 | 1.35 | 1.25 | 1.35 | 1.25 |
| Benzoate, 5 lb bot.....lb. | 1.05 | 1.15 | 1.35 | 1.05 | 1.35 | 1.25 |
| **BENZYL BENZOATE**..... | 1.35 | 1.40 | 1.40 | 1.35 | 1.40 | 1.35 |
| Medicinal, FFC.....lb. | ..... | 1.40 | 1.40 | 1.40 | 1.40 | 1.40 |
| Buytrate, CP, 1 lb bot....lb. | 9.25 | 9.50 | 9.50 | 9.25 | 9.50 | 9.25 |



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# QUALITY -- SERVICE -- PRICE

## { Monthly Review }

### Coumarin Imports into the United States

In 1929 showed an increase over those of 1928, the 1929 figures reaching 7,967 pounds. Incoming shipments, entered for consumption, show a tendency to increase each year—in 1924 there were imported 313 pounds, 1,083 pounds in 1925; 2,440 in 1926; 3,377 in 1927, and 6,036 in 1928. Over two-thirds of the 1929 imports came from Germany, the remainder coming from Great Britain, France, and Switzerland. The peak month for imports of this commodity was November when 1,729 pounds were shipped to this country from Germany and 91 pounds from France.

*Imports of Coumarin into the United States, Entered for Consumption in 1929*

| | Great Britain Pounds | France Pounds | Germany Pounds | Switzerland Pounds | Total Pounds |
|---|---|---|---|---|---|
| Jan-March | ... | 500 | 1,808 | ... | 2,308 |
| April-June | 335 | 150 | 456 | 446 | 1,387 |
| July-Sept. | 338 | 310 | 501 | 198 | 1,347 |
| Oct.-Dec. | ... | 191 | 2,623 | 111 | 2,925 |
| Total | 673 | 1,151 | 5,388 | 755 | 7,967 |

### Exportations of Orange, Pimento, and Lime Oil from Jamaica

The exportation of the different kinds of citrus oils from Jamaica is not shown separately for the years of 1925, 1926, and 1927, since they are grouped under the heading of "Essential Oils." However, it has been estimated that about 90 per cent. of the essential oils was orange oil and the remainder divided between lime oil and pimento oil.

The following tables set forth the exportation from Jamaica of essential oils for the past four years and the first three months of 1929, showing countries of destination, quantities and values: (Values expressed in pounds sterling.)

| | 1925 | 1926 | 1927 | 1928 | 1929 (3 mos.) |
|---|---|---|---|---|---|
| | *Quantity (Gallons)* | | | | |
| Germany | .... | .... | .... | 132 | .... |
| United Kingdom | 3,473 | 1,175 | 2,378 | 3,377 | 801 |
| Canada | 508 | 807 | 739 | 944 | .... |
| United States | 11,314 | 5,634 | 10,202 | 10,386 | 3,310 |
| France | 44 | 22 | .... | .... | 10 |
| Total | 15,339 | 7,638 | 13,319 | 14,839 | 4,121 |
| | | | *Value* | | |
| United Kingdom | £7,244 | £3,114 | £5,226 | £7,974 | £4,240 |
| Canada | 1,521 | 2,905 | 2,932 | 3,364 | .... |
| United States | 29,638 | 17,684 | 21,541 | 31,336 | 16,497 |
| France | 138 | 75 | .... | .... | 65 |
| Germany | .... | .... | .... | 613 | .... |
| Total | 38,541 | 23,778 | 29,699 | 43,287 | 20,802 |

(Consul Jose de Olivares, Kingston)

Geranium remains unchanged in price the market being firm at prevailing prices. As this is written reports have been received of a severe hurricane in Reunion. As yet no details are available as to possible damage to the crop. Should considerable damage result this commodity, which has been firm for some time, will probably advance in price.

Anise continues high with no immediate relief in sight. Dealers are still experiencing difficulty in getting stocks as practically no material is coming into the shippping ports due to the politically unsettled conditions existing in China. Price in the spot market is nominally $1.10 to $1.15 per lb.

| | Current Market | 1929-30 High | 1929-30 Low | 1928 High | 1928 Low |
|---|---|---|---|---|---|
| Benzyl Cinnamate, 1 lb bot. lb. | 9.25 | 9.50 | 9.25 | 9.50 | 9.25 |
| Formate, 1 lb bot. lb. | 3.15 | 3.25 | 3.15 | 3.75 | 3.15 |
| Propionate, 1 lb bot. lb. | 3.60 | 3.75 | 3.60 | 3.75 | 3.60 |
| Succinate, 1 lb bot. lb. | 5.25 | 5.50 | 5.25 | 5.50 | 5.25 |
| Valerate, 5 lb bot. lb. | 3.00 | 3.25 | 3.00 | 3.25 | 3.00 |
| Bornyl Acetate, 1 lb bot. lb. | 2.90 | 3.00 | 2.90 | 3.25 | 2.90 |
| Bromstyrol, 25 lb cases. lb. | 4.10 | 4.25 | 4.25 | 4.10 | 5.00 | 4.10 |
| Butyl Anthranilate dom, 1 lb bot. lb. | | | | | |
| Butyric Ether, see Ethyl Butyrate | | | | | |
| Cinnamic Acid, 5 lb cans. lb. | 3.25 | 3.50 | 3.50 | 3.25 | 3.50 | 3.25 |
| Alcohol liquid, 1 lb bot. lb. | 3.25 | 3.35 | 3.35 | 3.25 | 3.50 | 3.25 |
| Crystallizable. lb. | 7.00 | 8.00 | 8.00 | 7.00 | 8.00 | 7.00 |
| Aldehyde. lb. | 2.25 | 2.50 | 2.50 | 2.25 | 2.50 | 2.25 |
| Imported, 1 lb bot. lb. | 7.75 | 9.00 | 9.00 | 7.75 | 9.00 | 7.75 |
| Citronelyl Acetate, 1 lb bot. lb. | 7.75 | 8.00 | 8.00 | 7.75 | 8.00 | 7.75 |
| Coumarin, 25 lb cans. lb. | 3.50 | 4.00 | 4.00 | 3.50 | 4.00 | 3.50 |
| **DECYL ALCOHOL**. lb. | 25.00 | 28.00 | 28.00 | 25.00 | 28.00 | 25.00 |
| Diethyl Phthlate see Chemicals | | | | | |
| Diphenyloxide, 25 lb tins. lb. | 1.00 | 1.15 | 1.15 | 1.00 | 1.15 | 1.00 |
| Diphenyl Methane. lb. | 1.50 | 1.75 | 1.75 | 1.50 | 1.75 | 1.50 |
| Duodecyl Alcohol. lb. | 20.00 | 22.00 | 22.00 | 20.00 | 22.00 | 20.00 |
| Ethyl Acetate, pure, 5 lb bot. lb. | .45 | .50 | .50 | .45 | .50 | .45 |
| Benzoate, 5 lb bot. lb. | 1.50 | 1.75 | 1.75 | 1.50 | 1.75 | 1.50 |
| Ethyl Butyrate, 5 lb bot. lb. | 1.80 | 2.00 | 2.00 | 1.80 | 2.00 | 1.80 |
| Caproate, 1 lb bot. lb. | 3.25 | 3.50 | 3.50 | 3.25 | 3.50 | 3.25 |
| Cinnamate, 1 lb bot. lb. | 4.00 | 4.50 | 4.50 | 4.00 | 4.50 | 4.00 |
| Formate, 5 lb bot. lb. | 1.00 | 1.25 | 1.25 | 1.00 | 1.25 | 1.00 |
| Methyl Paracresol, 1 lb bot. lb. | 3.25 | 3.50 | 3.50 | 3.25 | 3.50 | 3.25 |
| Phenyl Acetate, 5 lb bot. lb. | 3.75 | 4.00 | 4.00 | 3.75 | 4.00 | 3.75 |
| Valerate, 5 lb bot. lb. | ..... | 3.75 | 3.75 | 3.75 | 3.75 | 3.75 |
| Salicylate, 5 lb bot. lb. | 1.95 | 2.00 | 2.00 | 1.95 | 2.10 | 1.95 |
| Formic Ether see Ethyl Formate | | | | | |
| Geranyl Acetate, 1 lb bot. lb. | 3.20 | 3.25 | 3.25 | 3.20 | 3.25 | 3.20 |
| Butyrate, 1 lb bot. lb. | 13.00 | 13.50 | 13.50 | 13.00 | 13.50 | 13.00 |
| Formate, 1 lb bot. lb. | 12.00 | 12.50 | 12.50 | 12.00 | 12.50 | 12.00 |
| Glyco Ester. lb. | .90 | 1.00 | 1.00 | .90 | 1.00 | .90 |
| Heliotropin, 100-10 lbs. lb. | 1.65 | 1.75 | 1.75 | 1.65 | 1.75 | 1.65 |
| Imported. lb. | 1.95 | 2.05 | 2.05 | 1.95 | 2.05 | 1.95 |
| Hydroxycitronellal, 1 lb. lb. | 5.50 | 7.50 | 7.50 | 5.50 | 7.50 | 5.50 |
| Indol, CP, 1 oz bot. oz. | 2.90 | 3.00 | 3.00 | 2.90 | 4.50 | 2.90 |
| **IONONE**, 1 lb bot 100%. lb. | 5.00 | 6.00 | 6.00 | 5.00 | 7.00 | 5.00 |
| Alpha. lb. | 4.80 | 5.00 | 5.20 | 4.80 | 6.25 | 4.75 |
| Beta. lb. | 5.70 | 5.75 | 5.75 | 5.70 | 7.25 | 5.50 |
| Methyl. lb. | 5.75 | 6.00 | 6.00 | 5.75 | 7.25 | 5.75 |
| Iso Borneol. lb. | 2.15 | 2.25 | 2.25 | 2.15 | 2.25 | 2.15 |
| Iso Bornyl Acetate. lb. | 2.80 | 3.00 | 3.00 | 2.80 | 3.00 | 2.80 |
| Iso-Butyl Benzoate, 5 lb bot. lb. | 2.75 | 3.00 | 3.00 | 2.75 | 3.00 | 2.75 |
| Iso-Safrol, 1 lb bot imp. lb. | 1.65 | 1.75 | 1.75 | 1.65 | 1.75 | 1.65 |
| Domestic, 5 lb bot. lb. | 3.50 | 3.75 | 3.75 | 3.50 | 3.75 | 2.50 |
| Lynalyl Acetate, 1 lb bot. lb. | 3.25 | 4.25 | 4.25 | 3.25 | 4.50 | 3.25 |
| Benzoate, 1 lb bot. lb. | 13.00 | 14.00 | 14.00 | 13.00 | 14.00 | 13.00 |
| Formate, 5 lb bot. lb. | 10.50 | 12.00 | 12.00 | 10.50 | 12.00 | 10.50 |
| **METHYL ACETOPHENONE** lb. | 3.35 | 3.50 | 3.50 | 3.35 | 3.75 | 3.35 |
| Anthranilate, 1 lb bot. lb. | 2.40 | 2.45 | 2.45 | 2.40 | 2.45 | 2.40 |
| Imported. lb. | 2.70 | 2.75 | 2.75 | 2.70 | 2.75 | 2.70 |
| Anthranilic Acid. lb. | 11.75 | 12.00 | 12.00 | 11.75 | 12.00 | 11.75 |
| Benzoate, 5 lb bot imp. lb. | 1.75 | 1.85 | 1.85 | 1.75 | 2.00 | 1.75 |
| Domestic, 5 lb bot. lb. | 1.75 | 2.00 | 2.00 | 1.75 | 2.00 | 1.75 |
| Cinnamate, 1 lb bot. lb. | 3.75 | 4.25 | 4.25 | 3.75 | 4.25 | 3.75 |
| Heptenone, 1 lb bot. lb | 8.50 | 9.00 | 9.00 | 8.50 | 9.00 | 8.50 |
| Paracresol, 1 lb bot. lb | 4.50 | 8.00 | 8.00 | 4.50 | 8.00 | 4.50 |
| Phenylacetate, 5 lb bot. lb | 3.75 | 4.00 | 4.00 | 3.75 | 4.00 | 3.75 |
| Salicylate, USP, 500 lb dr. lb. | ..... | .40 | .40 | .40 | .40 | .40 |
| 50 lb cases. lb. | ..... | .42 | .42 | .42 | .42 | 42 |
| Mirbane rect, 1,000 lb drs. lb. | .12 | .13 | .13 | .12 | .13 | 12 |
| Musk Ambrette 1 lb cans. lb | 6.50 | 6.75 | 6.75 | 6.50 | 6.75 | 6.50 |
| Ketone 1 lb cans. lb | 8.00 | 8.15 | 8.15 | 8.00 | 8.15 | 8.00 |
| Xylene 5 lb cans. lb. | 2.25 | 2.35 | 2.35 | 2.25 | 2.35 | 2.25 |
| Nerolin 1 lb cans. lb. | 1.35 | 1.40 | 1.40 | 1.35 | 1.50 | 1.35 |
| Octyl Alcohol 1 lb bot. lb. | 30.00 | 32.00 | 32.00 | 30.00 | 32.00 | 30.00 |
| Oenanthic Ether lb bot. lb. | 1.90 | 2.00 | 2.00 | 1.90 | 2.00 | 1.90 |
| Paracresol Methyl Ether. lb. | 6.50 | 6.75 | 6.75 | 6.50 | 6.75 | 6.50 |
| Paracresyl Acetate. lb. | 5.50 | 5.75 | 5.75 | 5.50 | 5.75 | 5.50 |
| Para Cymene Refd 110 gal dr. gal. | 2.25 | 2.50 | 2.50 | 2.25 | 2.50 | 2.25 |
| **PHENYLACETALDEHYDE** 50% 1 lb bot. lb. | 4.75 | 5.00 | 5.00 | 4.75 | 7.50 | 4.75 |
| Imported 50%. lb. | 4.75 | 5.00 | 5.00 | 4.75 | 6.50 | 4.75 |
| 100%. lb. | 8.00 | 8.25 | 8.25 | 8.00 | 8.25 | 8.00 |
| Phenylacetic Acid 1 lb bot. lb. | 3.00 | 3.25 | 3.25 | 3.00 | 3.25 | 3.00 |
| Phenyl Diacetate 1 oz bot. oz. | 3.00 | 3.25 | 3.25 | 3.00 | 3.25 | 3.00 |
| 1 lb bot. lb. | 8.00 | 10.00 | 10.00 | 8.00 | 10.00 | 8.00 |
| Imported. lb. | 7.00 | 7.75 | 7.75 | 7.00 | 7.75 | 7.00 |
| Phenylethyl Alcohol 1 lb bot. lb. | 4.50 | 4.75 | 4.75 | 4.50 | 4.75 | 4.50 |
| Phenyl Ethyl Acetate. lb. | 8.25 | 8.75 | 8.75 | 8.25 | 8.75 | 8.25 |
| Butyrate 1 lb bot. lb. | 15.00 | 16.00 | 16.00 | 15.00 | 16.00 | 15.00 |
| Formate, 1 lb bot. lb. | 19.00 | 21.00 | 21.00 | 19.00 | 21.00 | 19.00 |
| Propionate, 1 lb bot. lb. | 16.00 | 18.00 | 18.00 | 16.00 | 18.00 | 16.00 |
| Valerate, 1 lb bot. lb. | 19.00 | 20.00 | 20.00 | 19.00 | 20.00 | 19.00 |
| Phenylpropylalcohol, 1 lb bot. lb. | 12.00 | 12.50 | 12.50 | 12.00 | 16.00 | 12.00 |
| Skatol, 1 oz bot. lb. | 4.50 | 7.00 | 7.00 | 4.50 | 7.00 | 4.50 |
| Terpinyl Acetate, 25 lb cans. lb. | .75 | .80 | .80 | .75 | .80 | .75 |
| Imported, 25 lb cans. | .85 | .90 | .90 | .85 | .90 | .85 |
| **TERPINEOL**, CP, 1000 lb drs. lb. | .27 | .29 | .35 | .27 | .35 | .33 |
| 50 lb cans. lb. | .31 | .33 | .39 | .31 | .39 | .37 |
| Absolute, 25 lb cans. lb. | .48 | .50 | .50 | .48 | .50 | .48 |
| Imported, 25 lb cans. lb. | .58 | .60 | .60 | .58 | .60 | .58 |
| Vanillin (Clove Oil), USP. lb. | 6.25 | 6.80 | 7.00 | 6.00 | 7.50 | 7.00 |
| (Guaiacol) USP. lb. | 6.00 | 6.55 | 7.15 | 7.15 | 7.70 | 7.15 |

## Mysore Government

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Santalum Album

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32 CLIFF ST., NEW YORK CITY, N. Y.

## { Monthly Review }

### Bergamot Very Strong

Bergamot has advanced sharply and is now quoted at $3.30 to $3.70 per lb. as to quantity. This probably represents a turning point for this oil which has been weak all through the past year. Price in January, 1929, was $5.25 and from then on the decline was regular and practically uninterrupted until January of the current year when spot quotations were made at $3.25 per lb.

Bergamot is an oil which is generally well held abroad but due to economic reasons dealers there have found it necessary to convert stocks into ready cash and the oil has been more freely offered during the past year. It is reported, however, that the Italian government has now taken a hand in the situation and has offered, and is supplying, the necessary funds to dealers so that stocks of this oil may again be carried over a longer period and so eliminate the necessity of a quick resale. This will undoubtedly strengthen the market materially and higher prices for Bergamot are again likely.

This is not the first time the government has taken a hand in the Italian raw material market. Some time ago the production of orris root was curtailed by governmental decree with the resulting strengthening of the market in this commodity. There is one advantage, however, in this governmental interest in Bergamot in that where financial assistance has been made a stipulation has also been made that the quality of the oil be improved.

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Camphor is lower at 28c per lb. for the white. There had been some manipulation in this commodity with stocks being firmly held. Competitive business conditions, however, have made it necessary for shippers abroad to reduce stocks. Plentiful offerings abroad have reduced the spot market from a high last month of 40c for the white grade of camphor oil. Sassafras is lower at 30c per lb.

Citronella ceylon is still very firm in tone although no price changes have been made during the past month. The scarcity caused by the drought abroad is still keenly felt with practically no stocks being offered for shipment.

The situation in Java citronella oil is easier. Spot quotations are 70c per lb. Supplies of this grade of oil are plentiful with stocks being freely offered in the primary market.

Peppermint is easier at $3.20 per lb. with reports that some dealers are shading this figure. General business conditions are reported in one source as responsible for the weakness in peppermint. The banks are unwilling, or unable, to adequately finance the crop so that stocks have had to be turned over rather rapidly. Resulting competition, with a rather slow movement into consuming channels channels has caused a decline of approximately 15c per lb. during the past two weeks.

Wormseed is quoted spot at $3.25 to $3.35 per lb. a decline of about 15c per lb. during the past month. Demand for this commodity did not materialize as fully as expected. Stocks are reported as normal.

| | Current Market | 1929-30 High | 1929-30 Low | 1928 High | 1928 Low |
|---|---|---|---|---|---|
| Valerianic Ether see Ethyl Valerate | | | | | |
| Yara Yara, 1 lb cans lb. | 1.50 | 1.60 | 1.60 | 1.50 | 1.60 | 1.50 |
| **Essential Oils** | | | | | |
| Almond Bitter, USP, 5 lb bot lb. | 2.75 | 2.85 | 2.85 | 2.70 | 2.80 | 2.70 |
| Bitter, ffPA, 5 lb bot lb. | 2.85 | 2.95 | 3.10 | 2.85 | 3.25 | 3.00 |
| Sweet, 56 lb cans lb. | .60 | .63 | .85 | .60 | .85 | .73 |
| Amber crude, 25 lb tins lb. | .25 | .27 | .35 | .25 | .35 | .33 |
| Rectified, 25 lb tins lb. | .52 | .55 | .55 | .52 | .55 | .52 |
| Angelica Root, 1 lb bot lb. | 31.00 | 33.00 | 33.00 | 21.00 | 28.50 | 16.00 |
| Anise Tech, 400 lb drums lb. | 1.10 | 1.15 | 1.15 | .55 | .58 | .54 |
| USP, 60 lb cans lb. | 1.15 | 1.16 | 1.16 | .58 | .61 | .57 |
| Apricot Kernel, 50 lb cans lb. | .37 | .39 | .46 | .37 | .50 | .44 |
| Bay, 25 lb tins N. F. V., 50.55% Phenol lb. | 2.40 | 2.60 | 3.00 | 2.30 | 3.00 | 1.90 |
| Terpeneless lb. | 5.80 | 6.00 | 6.00 | 5.80 | 6.00 | 5.80 |
| **BERGAMOT**, 25 lb coppers lb. | 3.30 | 3.70 | 5.35 | 3.25 | 6.10 | 4.85 |
| Terpeneless lb. | 14.00 | 18.00 | 18.00 | 14.00 | 18.00 | 14.00 |
| Artificial, 25 lb cans lb. | 2.50 | 3.25 | 3.25 | 2.50 | 3.25 | 2.50 |
| Birch, Sweet, Northern, 25 lb tins lb. | 3.75 | 4.00 | 4.00 | 3.75 | 4.00 | 3.75 |
| Southern, 25 lb tins lb. | ..... | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 |
| Birch Tar, rect., 5 lb bot lb. | .50 | .55 | .55 | .50 | .55 | .50 |
| Crude, 50 lb tins lb. | .12 | .13 | .13 | .12 | .13 | .12 |
| Bois de Rose, tins | | | | | | |
| Brazillian lb. | 1.45 | 1.50 | 1.70 | 1.45 | 2.00 | 1.80 |
| Cayenne, tins lb. | 1.90 | 2.00 | 2.35 | 1.90 | 2.60 | 2.05 |
| Cade, 25 lb cans lb. | .25 | .27 | .27 | .25 | .27 | .25 |
| Cajuput, native, 50 lb tins lb. | .75 | .80 | .88 | .70 | .75 | .70 |
| Calamus, 5 lb bot lb. | 3.40 | 3.50 | 3.50 | 3.40 | 3.50 | 3.40 |
| Camphor Sassa, 1000 lb drs lb. | .26 | .27 | .36 | .14½ | .15½ | .14½ |
| White, 400 lb drs lb. | .28 | Nom. | .40 | .10½ | .12½ | .10½ |
| Cans, 50 lbs lb. | .30 | Nom. | .35 | .14 | .15 | .14 |
| **CANANGA**, Native 25 lb tins lb. | 2.90 | 3.15 | 3.25 | 2.90 | 3.50 | 3.00 |
| Rectified, 25 lb tins lb. | 3.30 | 3.40 | 3.50 | 3.30 | 4.00 | 3.40 |
| Caraway, USP lb. | 1.75 | 1.85 | 2.00 | 1.65 | 1.85 | 1.65 |
| Cardamon, NF, 1 lb bot lb. | 26.00 | 39.00 | 39.00 | 25.00 | 38.00 | 25.00 |
| Cascarilla, USP, 1 lb bot lb. | 75.00 | 90.00 | 90.00 | 50.00 | 64.00 | 50.00 |
| Cassia, | ..... | ..... | ..... | ..... | 1.45 | 1.30 |
| Redist, USP, 50 lb cans lb. | 1.40 | 1.45 | 2.10 | 1.40 | 3.25 | 1.70 |
| Cedar Leaf, 50 lb tins lb. | 1.05 | 1.10 | 1.10 | .95 | 1.35 | .90 |
| Cedar Wood, light, 1000 lb drs lb. | .28 | .30 | .30 | .25 | .29 | .24 |
| Celery, 1 lb bot lb. | ..... | 7.75 | 7.75 | 7.75 | 8.50 | 7.25 |
| Chaulmoogra, USP 80 lb cases lb | ..... | 1.50 | 1.50 | 1.20 | 1.20 | 1.20 |
| Cinnamon Ceylon, 1 lb bot lb. | 9.50 | 13.00 | 13.00 | 9.50 | 13.00 | 9.75 |
| Leaf, 5 lb bot lb. | 1.85 | 1.95 | 1.95 | 1.60 | 1.75 | 1.60 |
| **CITRONELLA** Ceylon, 1000 lb drs lb. | .59 | .61 | .61 | .44 | .56 | .33 |
| 50 lb tins lb. | .61 | .62 | .62 | .46 | .58 | .35 |
| Java, 400 lb drs lb. | .70 | .75 | .91 | .49 | .51 | .40 |
| 50 lb tins lb. | .79 | .84 | .93 | .52 | .54 | .43 |
| Cloves, USP, 50 lb cans lb. | 1.65 | 1.70 | 2.70 | 1.65 | 2.65 | 1.25 |
| 6 lb bot lb. | 2.20 | 2.25 | 2.90 | 2.20 | 2.75 | 1.35 |
| Copaiba lb. | ..... | .65 | .80 | .65 | .80 | .65 |
| Coriander, USP, 10 lb bots lb. | 5.90 | 6.50 | 11.25 | 5.90 | 14.00 | 10.50 |
| Croton USP, 25 lb tins lb. | 3.00 | 3.05 | 3.15 | .90 | .95 | .90 |
| Cubebs, USP, 5 lb bot lb. | 2.90 | 3.00 | 3.00 | 2.90 | 3.45 | 2.90 |
| Cumin, 1 lb bot lb. | ..... | 3.75 | 3.75 | 3.75 | 3.75 | 3.75 |
| Dill, 25 lb cans lb. | 3.75 | 3.85 | 3.85 | 3.75 | 4.25 | 3.75 |
| Erigeron, 20 lb tins lb. | 1.80 | 1.90 | 1.90 | 1.80 | 2.50 | 1.80 |
| **EUCALPYTUS** Austl, USP, 56 lb cans, cases lb. | .51 | .52 | .60 | .51 | .60 | .59 |
| 500 lb drs lb. | .50 | .51 | .59 | .50 | .59 | .58 |
| Fennel, USP, 25 lb tins lb. | .80 | .90 | .85 | .80 | .85 | .80 |
| Geranium African, 25 lb tins lb. | 5.15 | 5.40 | 5.40 | 3.85 | 4.25 | 3.00 |
| Bourbon, 28 lb tins lb. | 4.65 | 4.90 | 5.85 | 4.25 | 4.90 | 3.00 |
| Turkish, 28 lb tins lb. | 3.25 | 3.35 | 3.35 | 3.00 | 3.35 | 2.45 |
| Ginger, 1 lb bot lb. | 6.25 | 6.50 | 6.85 | 6.00 | 6.75 | 4.80 |
| Gingergrass, 28 lb tins lb. | 2.50 | 2.70 | 2.70 | 2.50 | 2.70 | 2.50 |
| Hemlock, 25 lb tins lb. | 1.05 | 1.10 | 1.10 | 1.05 | 1.10 | 1.00 |
| Juniper Berries, USP, 25 lb tins lb. | 1.90 | 1.95 | 2.15 | 1.90 | 3.75 | 2.10 |
| Wood, 50 lb tins lb. | .50 | .60 | .60 | .50 | .60 | .50 |
| **LAVENDER**, USP, 28 lb tins lb | 3.25 | 3.40 | 3.40 | 3.25 | 3.85 | 3.00 |
| Spike Spanish, 50 lb cans lb. | .90 | .95 | .95 | .90 | 1.05 | .90 |
| Lemon Ital, 25 lb cans lb. | 2.55 | 3.20 | 5.75 | 2.55 | 4.85 | 2.30 |
| California 35 lb cbys lb. | 1.95 | 2.15 | 4.65 | 1.95 | 4.35 | 1.85 |
| Lemongrass, native, 50 lb cans lb. | .72 | .74 | .83 | .81 | .95 | .81 |
| Limes, expressed, 25 lb tins lb. | 19.50 | 22.50 | 28.00 | 19.50 | 25.00 | 9.25 |
| Distilled, 25 lb tins lb. | 8.50 | 8.75 | 9.75 | 7.75 | 8.50 | 6.00 |
| Linaloe Mex., 70 lb cases lb. | ..... | 2.10 | 2.25 | 2.10 | 2.45 | 1.90 |
| Mace, distilled, 50 lb tins lb | 1.75 | 1.80 | 1.80 | 1.75 | 1.85 | 1.60 |
| Mandarin, 25 lb cases lb. | 8.75 | 9.25 | 11.50 | 8.75 | 11.50 | 7.50 |
| Mirbane, ref Aromatic Chemicals | | | | | | |
| **MUSTARD**, USP, 1 lb bots lb. | 9.50 | 10.00 | 10.00 | 9.50 | 10.00 | 9.50 |
| Artif, USP, 5 lb bot lb. | 1.60 | 1.70 | 1.70 | 1.60 | 2.00 | 1.60 |
| Neroli Bigarade, ⅛ & ¼ & 1 lb bot lb. | 150.00 | 325.00 | 325.00 | 75.00 | 140.00 | 75.00 |
| Petale, 1 lb bot lb. | 160.00 | 170.00 | 170.00 | 160.00 | 170.00 | 160.00 |
| Artificial, 1 lb bot lb. | 5.00 | 15.00 | 15.00 | 5.00 | 15.00 | 5.00 |
| Nutmeg, USP, 50 lb tins lb | 1.75 | 1.80 | 1.80 | 1.75 | 1.80 | 1.60 |
| **ORANGE BITTER**, 25 lb tins lb | 3.50 | 3.75 | 6.75 | 3.50 | 8.75 | 2.70 |
| Sweet W Ind, 25 lb tins lb | 3.10 | 3.35 | 6.50 | 3.10 | 8.75 | 2.60 |
| Italian, 25 lb cop lb. | 3.70 | 4.00 | 7.35 | 3.35 | 9.00 | 2.80 |

# CALIFORNIA

## YESTERDAY --- TODAY

OUT here in California, we see, in the ruins of the old Spanish Missions, those crude implements of agriculture, transportation and craftsmanship—we look at the old mortar and pestle, the wooden wheeled bull cart and the crooked stick plow and marvel at the tremendous progress which modern science has brought about—to-day the bull cart has become a high powered motor car—the mortar and pestle a galaxy of packaged breakfast cereals—the crooked stick plow, a tractor-propelled eight row disc.

Along with this evolutionary change has come the Citrus Industry of California. The Padres' lemon and orange trees in the mission patios have multiplied into thousands of acres of well kept citrus groves whose owners have banded together forming the California Fruit Growers Exchange.

Modern manufacturing methods are producing to-day the finest grades of Citrus Oils from these groves of our grower members and these oils are being distributed to the American consuming trade by two essential oil houses of New York, whose establishment dates back many decades. Modern cultural and industrial evolution have placed California Exchange Produced Citrus Oils at your disposal. We invite you to try out our Cold Pressed Oil of Orange and Lemon, also our Distilled Oil of Orange. Write for samples to-day direct to us or to our Distributors.

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## { Monthly Review }

### Italian Citrus Oil Exports Three Years

Exports of Italian citrus oils were heavier during 1928 than during the two preceding years. The United States continued to be Italy's best market followed by Great Britain, France, and Germany. The export trade to Russia has become important within the past two years. India and Japan have also become good markets. The following table shows the exports of citrus oils by kinds:

| | 1926 Kilos | 1927 Kilos | 1928 Kilos |
|---|---|---|---|
| Orange | 126,202 | 137,696 | 130,400 |
| Bergamot | 152,757 | 172,193 | 187,044 |
| Lemon | 622,059 | 571,416 | 628,002 |
| Mandarin | 5,850 | 8,762 | 8,212 |
| Other | 3,563 | 4,937 | 5,238 |
| Total | 910,431 | 895,004 | 958,896 |

1 kilo—2.204 pounds.

The following table shows the exports of Italian citrus oils by countries of destination:

| | 1926 Kilos | 1927 Kilos | 1920 Kilos |
|---|---|---|---|
| United States | 314,000 | 250,000 | 300,000 |
| Great Britain | 214,000 | 230,000 | 234,000 |
| France | 178,000 | 127,000 | 154,000 |
| Germany | 83,000 | 109,000 | 116,000 |
| Netherlands | 22,000 | 30,000 | 31,000 |
| Russia | 580 | 13,000 | 23,000 |
| Australia | 22,000 | 29,000 | 19,000 |
| Other countries | 76,420 | 107,000 | 82,000 |
| Total | 910,000 | 895,000 | 959,000 |

(Trade Commissioner Elizabeth Humes, Rome.)

### Lemon Oil Strengthens

Sharp flurries characterised the Italian Lemon oil market during the past month. After sharp declines the market firmed up considerably. Quotations are now at $2.55 per lb. End of the month deliveries are reported as partly responsible for the rebound. The present position of Italian lemon is very uncertain although the consensus of opinion is that the flurry will subside and that still lower prices will prevail.

California oil is being offered at $1.95 per lb. with supplies ample so that no upward move is anticipated.

### Orange Oil Higher

Orange oil presents a stronger aspect. Cables have been coming in higher from the Messina market. Spot quotations are at $3.70 and $4.00 as to quantity an advance over recent prices. West Indian oil while unchanged in price is reported as firm with every possibility of advancing.

This would seem a logical time, therefore, for buyers to cover part at least of their requirements for the year as prices are still attractive. It is practically impossible to buy at the absolute bottom of any price move and there is always a chance that a sudden upswing will catch the buyer unprepared.

Oil ginger is lower in sympathy with the raw material market. Quotations are freely made here of $6.25 per lb.

Cedar wood oil is scarce in the spot market. Dealers have advanced prices 3c per lb. to 28c. Demand is normal.

| | Current Market | 1929-30 High | 1929-30 Low | 1928 High | 1928 Low |
|---|---|---|---|---|---|
| Orange American, Cold pressed | | | | | |
| 25 lb tins lb. | 3.50 | 3.75 | 7.40 | 3.50 | 8.75 | 3.50 |
| Distilled, 25 lb tins lb. | 1.95 | 2.05 | 5.25 | 1.95 | 7.75 | 2.20 |
| Spanish, 25 lb tins lb. | 3.85 | 4.00 | 7.15 | 3.85 | 8.75 | 3.00 |
| Oil Orris, concrete oz. | 6.00 | 6.25 | 6.25 | 2.50 | 4.90 | 2.50 |
| Origanum, 50 lb cans tech. lb. | .28 | .30 | .30 | .28 | .30 | .28 |
| Parsley, 1 lb bot lb. | 9.00 | 9.25 | 9.25 | 8.00 | 8.25 | 6.50 |
| Patchouli, 5 lb bot lb. | 8.25 | 8.50 | 8.75 | 6.75 | 13.00 | 7.25 |
| Pennyroyal, dom, 25 lb tins lb. | 1.55 | 2.10 | 2.10 | 1.55 | 1.90 | 1.55 |
| Imported, 25 lb tins lb. | .... | 1.20 | 1.20 | 1.20 | 1.55 | 1.20 |
| Pepper Black lb. | 10.25 | .... | .... | .... | .... | .... |
| Peppermint, nat. 60 lb cases lb. | 3.20 | 3.30 | 4.05 | 2.85 | 3.55 | 3.10 |
| Redis, USP, 60 lb cs. lb. | 3.40 | 3.50 | 4.30 | 3.10 | 3.65 | 3.40 |
| Petit Grain S A., 25 lb tins. lb. | 1.95 | 2.05 | 2.05 | 1.90 | 2.10 | 1.50 |
| French, 1 lb bot lb. | 6.25 | 6.50 | 6.50 | 6.25 | 6.50 | 6.25 |
| Italian, 25 lb tins lb. | 2.20 | 2.30 | 2.30 | 2.20 | 2.30 | 2.20 |
| Pimento, 25 lb tins lb. | 2.50 | 2.75 | 2.75 | 2.25 | 3.25 | 2.55 |
| Pineedle Siberian, cans lb. | .70 | .75 | .75 | .60 | .85 | .65 |
| Pinus, Sylvestris, 25 lb tins lb. | 1.90 | 2.00 | 2.00 | 1.90 | 2.00 | 1.90 |
| Pumilio, USP, 25 lb tins lb. | 2.85 | 2.95 | 2.95 | 2.85 | 2.95 | 2.85 |
| Rose Fr, 8, 16, & 32 oz pkgs lb. | 14.00 | 17.00 | 17.00 | 12.00 | 15.00 | 12.00 |
| Bulg, 8, 10 & 32 oz pkgs lb. | 14.00 | 14.50 | 14.50 | 11.50 | 13.00 | 10.25 |
| Rosemary, USP, 27½ lb tins lb. | .... | .51 | .56 | .47½ | .56 | .47½ |
| 1000 lb drums lb. | .... | .50 | .50 | .42½ | .45 | .42½ |
| Tech, 25½ lb tins lb. | .... | .40 | .40 | .40 | .34 | .34 |
| Rue, 1 lb bot lb. | 3.00 | 3.10 | 3.25 | 3.00 | 3.25 | 3.15 |
| **SANDALWOOD,** E Ind ,USP, 100 lb case lb. | 9.00 | 9.25 | 9.85 | 7.45 | 7.50 | 7.05 |
| W Indian (Amayris), 25 lb tins lb. | 2.85 | 2.95 | 2.95 | 2.25 | 2.65 | 2.30 |
| Sassafras, USP, 50 lb cans lb. | 1.30 | 1.32 | 1.32 | .78 | .85 | .75 |
| Artificial, 1000 lb drs, 60 lb cans lb. | .30 | .32 | .40 | .26 | .28 | .26 |
| Safrol, cans lb | .36 | .38 | .48 | .28 | .29 | .28 |
| Savin, 50 lb tins lb | 2.50 | 2.65 | 2.75 | 1.65 | 1.90 | 1.70 |
| **SPEARMINT,** USP, 50 lb tins lb | 4.60 | 4.65 | 4.70 | 4.05 | 4.55 | 4.10 |
| Spruce, 50 lb tins lb. | 1.05 | 1.10 | 1.10 | 1.05 | 1.10 | 1.00 |
| Tansy, American, 25 lb tins lb. | 3.75 | 4.00 | 4.00 | 3.75 | 4.50 | 3.75 |
| Tar, 50 gal bbls lb. | .25 | .30 | .30 | .25 | .30 | .25 |
| USP, 50 gal bbls lb. | .75 | 1.50 | 1.50 | .75 | 1.50 | .75 |
| Thyme, red, NF, 25 lb tins lb. | .78 | .80 | .90 | .78 | .90 | .80 |
| White, NF, 25 lb tins lb. | .83 | .85 | .90 | .83 | .90 | .85 |
| Tech, 110 lb drums lb. | .60 | .70 | .70 | .60 | .70 | .60 |
| Turpentine, USP, rect cbys lb. | .27 | .30 | .30 | .27 | .30 | .27 |
| Vetivert Bourbon, 10 bot lb. | 6.25 | 6.50 | 6.50 | 6.25 | 6.75 | 5.85 |
| Indian, 1 lb bot lb. | 25.00 | 38.00 | 38.00 | 25.00 | 38.00 | 25.00 |
| Java, 1 lb bot lb. | 15.00 | 16.00 | 16.00 | 15.00 | 16.00 | 15.00 |
| Wine, heavy, 1 lb bot lb. | 1.65 | 1.75 | 1.75 | 1.65 | 1.75 | 1.65 |
| **WINTERGREEN** Gaultheria, true, 25 lb tin lb. | 8.00 | 10.00 | 10.00 | 8.00 | 10.00 | 8.00 |
| Southern, 25 lb tins lb. | 3.75 | 4.00 | 4.00 | 3.75 | 4.00 | 3.75 |
| Synthetic see Methyl salicylate | | | | | | |
| Wormwood, dom, 25 lb tins lb. | 12.25 | 12.50 | 35.00 | 12.25 | 35.00 | 14.00 |
| Wormseed, Balt, 25 lb tins lb. | 3.25 | 3.50 | 3.35 | 1.80 | 3.45 | 1.90 |
| Ylang Ylang Bourbon, 10 lb tins No. 1 lb. | 9.00 | 9.25 | 9.75 | 9.25 | 10.50 | 8.50 |
| 10 lb tins No. 2 lb. | 8.20 | 8.25 | 8.50 | 8.00 | 8.50 | 6.75 |
| Manila, 1 lb bot lb. | 30.00 | 40.00 | 40.00 | 30.00 | 32.00 | 30.00 |

## Oleoresins

| | | | | | | |
|---|---|---|---|---|---|---|
| Aspidum, USP, bot and tins. lb. | ..... | 1.25 | 1.45 | 1.25 | 2.10 | 1.50 |
| Capsicum, USP, bot and tins. lb. | 3.50 | 4.25 | 4.25 | 3.50 | 4.25 | 3.50 |
| Cubeb, USP, bot and tins. lb. | 3.00 | 3.25 | 3.25 | 3.00 | 3.25 | 3.00 |
| Ginger bot and tins. lb. | 2.85 | 3.35 | 3.35 | 2.85 | 3.35 | 2.25 |
| Malefern see Aspidum | | | | | | |
| Orris, bot & tins lb. | 15.00 | 18.00 | 18.00 | 15.00 | 18.00 | 15.00 |
| Pepper, black, USP, bot & tin lb. | .... | 9.50 | 9.50 | 9.50 | .... | .... |
| Vanilla, bot & tins. lb. | 8.00 | 8.75 | 8.75 | 8.00 | 8.75 | 8.00 |

## Perfumer's Sundries

| | | | | | | |
|---|---|---|---|---|---|---|
| Almond Meal, 25 lb cans. lb. | .20 | .21 | .21 | .20 | .21 | .20 |
| Amber liquid, 400 lb drs. lb. | 2.20 | 2.30 | 2.30 | 2.20 | 2.30 | 2.20 |
| Ambergris, Black, boxes. oz. | 14.00 | 15.00 | 15.00 | 14.00 | 15.00 | 14.00 |
| Gray boxes oz. | 32.00 | 36.00 | 36.00 | 32.00 | 36.00 | 32.00 |
| **BALSAM COPAIBA** Para, 80 lb cases lb. | ..... | .33½ | .34 | .30 | .49 | .32 |
| South American, USP, 80 lb cases lb. | ..... | .37 | .37 | .3 | .52 | .35 |
| Peru, 120 lb cases lb. | 2.00 | 2.00 | 2.05 | 1.75 | 1.80 | 1.65 |
| Tolu, 90 lb cases lb. | 1.25 | 1.30 | 1.30 | 1.15 | 1.20 | .95 |
| Benzoin Gum, Siam, boxes. lb. | 1.20 | 1.30 | 1.30 | 1.20 | 1.30 | 1.20 |
| Castoreum, 1 lb bot lb. | 9.50 | 10.00 | 10.00 | 9.50 | 10.00 | 9.50 |
| Chalk, Precip, 1 gt 175 bbls. lb. | .04½ | .05 | .05 | .04½ | .05 | .04½ |
| Cherry Laurel Water, 24 ltr cby lb. | 4.10 | 4.60 | 4.60 | 4.10 | 5.60 | 4.10 |
| Civet, Abyssin, horns oz. | 2.10 | 3.00 | 3.00 | 2.10 | 3.00 | 2.10 |
| Labdanum, 5 lb bot lb. | 5.50 | 6.00 | 6.00 | 5.50 | 6.00 | 5.50 |
| Musk Pods Cabardine, tins. lb. | ..... | ..... | ..... | ..... | ..... | ..... |
| Musk Tonquin, tins, Pods. oz. | 24.00 | 26.00 | 26.00 | 24.00 | 26.00 | 24.00 |
| Grains Cabardine, tins. oz. | ..... | ..... | ..... | ..... | ..... | ..... |
| Tonquin, tins, Grained. oz. | 28.00 | 34.00 | 34.00 | 28.00 | 34.30 | 28.00 |
| Synthetic See Aromatic Chemical | | | | | | |
| Rice Starch, 140 lb bags. lb. | .09 | .10 | .10 | .09 | .10 | .09 |
| Rose Water, 24 ltr cbys. cby. | 5.00 | 5.50 | 5.50 | 5.00 | 5.50 | 5.00 |
| Sandalwood, pwd bags. lb. | .22½ | .40 | .40 | .22½ | .40 | .22½ |
| Saponin, 5 lb tins lb. | 1.15 | 1.30 | 1.30 | 1.15 | 1.30 | 1.15 |
| Talc, Italian, 220 lb bags. ton. | 60.00 | 80.00 | 80.00 | 60.00 | 80.00 | 60.00 |
| French, 220 lb bags. ton. | 40.00 | 45.00 | 45.00 | 40.00 | 45.00 | 40.00 |

# *Purity*

The U. S. P. X. provides four safeguards for buyers of PETROLATUM LIQUIDUM. They are tests for ACID, ALKALI, SULPHUR COMPOUNDS and CARBONIZABLE substances. ALBINOL Genuine Russian Mineral Oil tests as follows:

**ACID** NEGATIVE

**ALKALI** NEGATIVE

**SULPHUR COMPOUNDS** NEGATIVE

**CARBONIZABLE Substances** PASSES GOOD

The latter test is probably the most *important.* The U. S. P. X. prescribes in the last named test that the C. P. Sulphuric Acid used in the test must not turn darker than "Pale Amber" and that the OIL remain unchanged in color.

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## { Monthly Review }

### Turkish Gum Tragacanth Market During November, 1929

A favorable trend of business was noticeable on the Istambul (Constantinople) gum tragacanth market during November and a steady demand registered. American buyers placed a few trial orders. Other shipments were made, by order of importance, to Hamburg, Marseille, London, Antwerp, and Trieste. Most of these are said to be on consignment and in this connection, Hamburg banking establishments advance 65 per cent. on invoiced prices. Up to November 22, 1929, sales for 399 sacks were handled locally. Stocks available locally toward the end of the same period aggregated 136 sacks of the 1927 crop; 277 sacks of the 1928 crop; and 243 sacks of the 1929 crop, totaling 656 sacks in all.

As the 1929 crop was about 40 per cent. less than that of 1928, it may be assumed that the above stocks are not very likely to be increased and that they will be easily disposed of as long as prices are comparable to foreign quotations. (Assistant Trade Commissioner John T. Harding, Istanbul)

Prices for classified gums prevailing at the end of the month are available upon application to the Chemical Division.

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### More Licorice Root

The production of Spanish licorice root during 1929 has increased greatly. The bulk of the licorice root production in the Seville area was shipped during the quarter ending September 30, 1929, total shipments to the United States having been 736,556 pounds valued at $35,047 as against none during the same period last year. The principal local shipper of this commodity reports that this year's production of root is the largest in several years, and he anticipates that there will be an even more active demand in the next two or three years for root from southern Spain. (Consul Richard Ford, Seville, Spain.)

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Buckthorn bark is strong with price increasing to 7c per lb. Conservative stocks are reported both here and abroad with price in the primary market advancing. Demand is light.

Cascara is distinctly strong with spot market advancing to 15c for 1928 bark. Cascara is very scarce both here and on the Coast with reports that old bark is practically cleaned up and very little of the new bark available. As it will be June or July before a new crop is gathered an acute shortage may result with corresponding increase in price.

Arnica flowers are in plentiful supply with a poor demand reported for this commodity. Price has declined to 28c per lb. from a high last month of 34c.

Red Squill Powders as Raticides, published by Bureau of Biological Survey, Department of Agriculture, states that red squill is relatively safer and more nearly approaches the ideal rat poison.

## Drugs and Spices

| | Current Market | 1929-30 High | 1929-30 Low | 1928 High | 1928 Low |
|---|---|---|---|---|---|
| Aconite Root, USP, bags....lb. | .17 | .18 | .21 | .17 | .27 | .19 |
| Agar Agar, domestic, No. 1, 200 lb.....lb. | 1.40 | 1.45 | 1.45 | 1.40 | 1.40 | .96 |
| Almonds Meal.....lb. | .19 | .20 | .30 | .15 | .30 | .15 |
| Aletris Root, bags.....lb. | .36 | .37 | .38 | .35 | .42 | .36 |
| Alkanet Root, bags.....lb | .12 | .13 | .15 | .11 | .12 | .10 |
| **ALOES,** Cape, 400 lb cases. lb. | .13 | .14 | .18 | .13 | .18 | .09½ |
| Curacao, 100 lb cases.....lb. | .25 | .27 | .27 | .19 | .20 | .12 |
| Socotrine, Whole, 300 lb cs lb. | .45 | .50 | .50 | .35 | .45 | .35 |
| Althea Root, bags.....lb. | .20 | .22 | .22 | .20 | .22 | .20 |
| Cut cases.....lb. | .29 | .36 | .40 | .29 | .40 | .33 |
| Angelica Root, bags.....lb. | .19 | .20 | .28 | .19 | .25 | .18 |
| Angostura Bark, bags.....lb. | .20 | .23 | .26 | .19 | .18 | .18 |
| Anise Star case.....lb. | .09½ | .10 | .19 | .09½ | .26½ | .14 |
| Spanish, bags.....lb. | .13 | .13¼ | .19 | .13 | .20 | .13 |
| **ARABIC GUM,** White, No. 1, 220 lb bags.....lb. | .35 | .36 | .38 | .22 | .27½ | .22 |
| Seconds, 220 lb bags.....lb. | .33 | .34 | .36 | .16 | .21 | .16 |
| Sorts, Amber, 220 lb bags..lb. | .25 | .27 | .32 | .11 | .11½ | .10½ |
| Powd, USP, 300 lb bbls....lb. | .30 | .32 | .35 | .17½ | .21 | .17½ |
| Areca Nuts, 100 lb bbls.....lb. | .18 | .20 | .20 | .10 | .12½ | .10 |
| Powd, 100 lb bbls.....lb. | .25 | .27 | .27 | .14 | .21 | .15 |
| Arnica Flowers, bales.....lb. | .28 | .29 | 1.00 | .28 | 1.50 | .95 |
| Root, bags.....lb. | .45 | .46 | .46 | .35 | .45 | .35 |
| Arrowroot, St. Vincent, powd bbls.....lb. | .08 | .09 | .10½ | .08 | .10½ | .10 |
| Asafoetida, 250 lb cases.....lb. | .24 | .27 | .29 | .23 | .31 | .25 |
| Powd, 50 lb boxes.....lb. | .42 | .45 | .54 | .42 | .68 | .50 |
| Balm Gilead Buds, bags.....lb. | .35 | .40 | .40 | .35 | .40 | .31 |
| Balmony Herbs, bales.....lb. | .23 | .25 | .25 | .18 | .23 | .18 |
| Barberry Bark, of root, bags lb. | .18 | .20 | .20 | .18 | .32 | .19 |
| Bayberry Bark, bales.....lb. | .11 | .12 | .13 | .10 | .18 | .12 |
| Wax bbls.....lb. | .29 | .32 | .32 | .29 | .32 | .29 |
| **BELLADONNA LEAVES,** bales .....lb. | .18 | .20 | .20 | .17 | .23 | .17 |
| Root, bags.....lb. | .18 | .19 | .21 | .18 | .21 | .19 |
| Bees Wax, White, cases.....lb. | .55 | .60 | .60 | .55 | .60 | .55 |
| Yellow refined cases.....lb. | .41 | .42 | .42 | .41 | .42 | .41 |
| Berberis Aquafolium Root, bags .....lb. | .09 | .10 | .12 | .09 | .13 | .10 |
| Beth Root, bags.....lb. | .16 | .17 | .18 | .16 | .20 | .17 |
| Black Indian Hemp Root, 100 lb bags.....lb. | .18 | .19 | .19 | .18 | .20 | .18 |
| Blood Root, bags.....lb. | .18 | .18½ | .18½ | .17½ | .35 | .21 |
| Blueflag Root, bags.....lb. | .18 | .21 | .21 | .18 | .27 | .17 |
| Boldo Leaves, bales.....lb. | .15 | .17 | .17 | .15 | .17 | .15 |
| Boneset Herb, bales.....lb. | .10 | .11 | .12 | .10 | .10 | .07½ |
| Borage Flowers, bales.....lb. | .15 | .16 | .15 | .14½ | .17 | .14½ |
| Broomtop Herb Cut, bales..lb. | .08 | .09 | .11 | .08 | .11 | .10 |
| Bryonia Root, bags.....lb. | .11 | .12 | .12 | .11 | .12 | .10½ |
| **BUCHU LEAVES** Short, 250 lb. bales.....lb. | .37 | .38 | .47 | .36 | .55 | .42 |
| Long bales.....lb. | .75 | .80 | .80 | .75 | .80 | .75 |
| Buckbean Leaves, bales.....lb. | .08 | .09 | .10 | .08 | .15 | .13 |
| Buckthorn Bark, bags.....lb. | .07 | .07½ | .07½ | .05 | .05½ | .05 |
| Berries, bags.....lb. | .40 | .45 | .50 | .40 | .50 | .45 |
| Burdock Root, bags.....lb. | .12 | .13 | .18 | .12 | .17 | .11 |
| Seed bags.....lb. | .40 | ..... | .65 | .40 | ... | .65 |
| Burgundy Pitch, 110 stand gross for net.....lb. | .08 | .09 | .09 | .08 | .09 | .08 |
| Imported.....lb. | .11 | .12 | .13 | .11 | .13 | .12 |
| Calabar Beans, bags.....lb. | .25 | .26 | .26 | .22 | .27 | .22 |
| Calamus Root, blchd cases..lb. | .45 | .50 | .52 | .45 | .50 | .35 |
| Unbleached, bags.....lb. | .06½ | .08 | .08 | .06½ | .07 | .06½ |
| Calendula Petals, imp bales..lb. | .95 | 1.05 | 1.70 | .95 | 1.75 | .85 |
| Calisaya Bark, bales.....lb. | .19 | .20 | .22 | .19 | .23 | .20 |
| Powdered, bbls.....lb. | .24 | .25 | .27 | .24 | .32 | .18 |
| Canary Seed, South America, bags.....lb. | .05½ | .06 | .07½ | .05 | .05½ | .04½ |
| Dutch, bags.....lb. | .05½ | .06 | .06½ | .05½ | .06½ | .05½ |
| Candelilla Wax, bags.....lb. | .27 | .28 | .28 | .27 | .28 | .27 |
| Cannella Alba Bark, bales...lb. | .30 | .31 | .31 | .28 | .32 | .28 |
| Cannabis, U.S.P.....lb | .23 | .30 | .33 | .22 | ..... | ..... |
| Cantharides, Chinese, cases..lb. | .42 | .47 | .55 | .42 | .72 | .50 |
| Powdered, boxes.....lb. | .63 | .65 | .80 | .63 | .88 | .75 |
| Russian, cases.....lb. | .50 | .51 | .55 | .50 | .70 | .54 |
| Powdered, boxes.....lb. | .62 | .64 | .75 | .65 | .80 | .68 |
| Caraway Seed, African, bags .....lb. | .05 | .06 | .06 | .05 | .12 | .05 |
| Dutch, 11 lb bags.....lb. | .10 | .10½ | .12 | .09½ | .12 | .09½ |
| Cardamon bleached, cases...lb. | 1.45 | 1.55 | 1.75 | 1.45 | 2.00 | 1.50 |
| Decorticated, cases.....lb. | 1.24 | 1.30 | 1.60 | 1.24 | 1.60 | 1.25 |
| Cascara Amarga, 150 lb bbls. lb. | Nom. | ..... | ..... | ..... | .90 | .90 |
| So called bales.....lb. | .60 | .85 | .85 | .60 | .85 | .60 |
| **CASCARA SAGRADA,** 1927 bark.....lb. | .16 | .17 | .17 | .14 | .16 | .15 |
| 1928 bark .....lb. | .15 | .16 | .16 | .13 | .15 | .14 |
| 1929 bark .....lb. | .14½ | .15 | .14½ | .15 | .14 | .13 |
| Cascarilla Bark, quills, bales. lb. | .90 | 1.00 | 1.00 | .90 | 1.00 | .90 |
| Siftings, bbls.....lb. | .65 | ..... | .65 | .65 | .65 | .65 |
| Cassia Batavia No. 1 bbls....lb. | .12½ | .12½ | .15 | .12½ | .16 | .13½ |
| Shortstick, bales.....lb. | .10½ | .11 | .12½ | .10½ | .13 | .11 |
| Batavia No. 3, bales.....lb. | .09½ | .09½ | .11 | .09½ | .11 | .09½ |
| China Select Rolls, cases..lb. | .07 | .07½ | .09 | .08½ | .13½ | .09 |
| Broken, bales.....lb. | .09½ | .10 | .10 | .09½ | .10 | .08½ |
| Saigon, thin.....lb. | .30 | .31 | .39 | .28 | .39 | .22 |
| Buds, cases.....lb. | .25 | .26 | .28½ | .16½ | .19 | .18½ |
| Fistula, baskets.....lb. | .10 | .11 | .13 | .10 | .24 | .11 |
| Catnip, Herb, bales.....lb. | .19 | .20 | .23 | .18 | .23 | .19 |
| Celery Seed, bales.....lb. | .16½ | .17½ | .19 | .16½ | .21 | .19 |
| Ceresin Wax, White, bags...lb. | .15 | .20 | .20 | .15 | .20 | .15 |
| Yellow 200 lb. bags.....lb. | .11 | .14 | .14 | .11 | .14 | .11 |
| Imp. 100 lb. bags.....lb. | .25 | .38 | .38 | .25 | .38 | .25 |

## *Inflexible Fate To Greece*

## *Beautiful Lady To Italy*

***and now--***

## *An Essential Alkaloidal Drug*

ATROPAS, who, according to the ancient Greeks, was the Fate who cut the thread of life, first gave name to Atropa Belladonna.

Centuries later, fair ladies of the Italian court discovered in the berries of this member of the deadly night shade family a cosmetic and a way to a fetching wide-eyed glance. Thus fate was again tempted, and the name Bella Donna, or Beautiful Lady, was linked with that of Atropas.

Central Europe supplies the majority of Belladonna to-day. Here the leaves and tops are carefully gathered and dried slowly under shade to prevent scorching. Stems larger than seven to eight millimeters are carefully excluded. This rigid routine, so necessary to secure shipments of the highest alkaloidal content, is carried on under the constant supervision of representatives of McIlvaine Brothers, Inc. So, too, with analysis, which is made first by European chemists, and again checked here before any lot enters McIlvaine Brothers' warehouse.

One of our most important specialties, if you use Belladonna you will be interested in the uniform quality and high alkaloidal content of the grade we offer.

*Botanical Drug Importers since 1844*

# McIlvaine Brothers, Inc.

1500 Hamilton Street
Philadelphia

Cable Address "MacIlvaine"

101 Beekman Street
New York

# Drugs and Spices

## { Monthly Review }

### Digitalis Goes Lower

Digitalis is offered freely at 23c per lb. Buyers have been scarce even at these figures which are very low for this commodity. The price decline for the month represents about 3c per lb. When it is considered that digitalis sold at a price of 70c per lb. during 1929 the weakness in this material is distinctly apparent. It is reported, however, that this figure probably represents the culmination of the decline and no further recessions are looked for.

Flea seed represents the strongest point in the crude drug market. Price has jumped to the point where offerings are being made at 30c and 45c per lb. Reports from abroad are becoming constantly more alarming. Stocks there are almost exhausted with no prospect of replenishment until a new crop can be gathered. As this relief cannot be expected until well into next summer price may go to unheard of heights before that time.

Consumption of flea seed has increased greatly during the past year as this commodity is becoming popularized and more generally used as a remedy for constipation. Both Spain and France, the principal countries of supply, have never experienced such a heavy demand before, so that they were totally unprepared, especially for the demand from this country.

### Golden Seal Markets

Most of the medicines containing Golden seal root used in Denmark are purchased in finished form from Germany. The demand for golden seal root (hydrastis) in Denmark is extremely small. Only very limited quantities of hydrastis root are imported direct.

The prices vary, states Vice Consul William H. T. Mackie, Copenhagen, but according to one firm, 30 crowns (approximately $8) a kilo (2.2046 pounds) may be taken as the average price. According to another firm, their last consignment cost $3.30 per pound, f.o.b. Hamburg. This firm imports from 60 to 70 kilos a year. At present they are taking their entire supply of hydrastis root from Germany.

The present Danish customs duty on hydrastis conadensis is approximately one and one-half cents per pound. If cut or otherwise treated, the duty is slightly higher.

Exports of American crude drugs, herbs, leaves, and roots to Denmark during the period 1922 to 1928, inclusive, had an average value of $7,000.

The names of the two firms referred to above are available to accredited American firms upon application to the Chemical Division.

Germany is actively taking on supplies of golden seal root, 75 per cent. of which is supplied by this country, and 25 per cent. by Canada. German requirements for this product, which is known in Germany as hydrastis, are U. S. P. specifications, and containing 2½ per cent. ether soluble alkaloids.

England, which has a consumption of golden seal root per capita about the same as this country, is reported steadily to be using less of this item. England's preference is for the wild root, although at the present time, English consumers has been forced to accept the cultivated root due to the scarcity of the wild variety.

| | Current Market | 1929-30 High | 1929-30 Low | 1928 High | 1928 Low |
|---|---|---|---|---|---|
| **CHAMOMILE FLOWERS** | | | | | |
| Roman, bales lb. | .75 | .80 | .80 | .40 | .50 | .18 |
| Hungarian, cases lb. | .20 | .21 | .26 | .20 | .24 | .15 |
| Charcoal Willow, powd, bbls. lb. | .06 | .06½ | .06½ | .06 | .06½ | .06 |
| Wood, powd, bbls lb. | .04 | .05 | .05 | .04 | .05 | .04 |
| Chestnut Bark lb. | .07 | .08 | .08 | .07 | ..... | ..... |
| Leaves bales lb. | .05 | .05½ | .05½ | .05 | .06½ | .05 |
| Chicle Gum, lb bbls lb. | .58 | .75 | .75 | .58 | .75 | .58 |
| Chiretta, bales lb. | .25 | .27 | .30 | .25 | .30 | .25 |
| Cinnamon, Ceylon, No. 1, bales lb. | .34 | .35 | .62 | .34 | .62 | .60 |
| No. 2 bales lb. | .28 | .28½ | .51 | .28 | .61 | .55 |
| No. 3 bales lb. | .55½ | .56 | .56 | .55½ | .56 | .55½ |
| Clover Tops, Red, bags lb. | .10 | .11 | .14 | .10 | .12 | .10 |
| Cloves Zanzibar, 135 lb bbl lb. | .22 | .22½ | .38 | .22 | .38 | .18 |
| Cochineal, Black lb. | .69 | ..... | .69 | .69 | .69 | .69 |
| Silver lb. | .85 | ..... | .85 | .85 | .85 | .85 |
| Cohosh Root, Black, bags lb. | .08 | .09 | .09 | .07½ | .09 | .07 |
| Blue, bags lb. | .10 | .11 | .12 | .10 | .12 | .09 |
| Colchicum Root, bags lb. | .10 | .11 | .11 | .07 | .07 | .06 |
| Seed, bags lb. | .95 | 1.00 | 1.00 | .65 | .70 | .25 |
| **COLUMBO ROOT**, bags lb. | .11 | .12 | .20 | .11 | .20 | .05 |
| Colocynth Pulp, bales lb. | .21 | .22 | .45 | .21 | .110 | .42 |
| Coltsfoot Leaves, bags lb. | .08 | .09 | .09 | .08 | .12 | .08 |
| Comfrey Root, bags lb. | .10 | .11 | .14 | .10 | .14 | .14 |
| Condurango Bark, bags lb. | .14 | .15 | .17 | .14 | .16 | .13 |
| Coriander Seed, Morocco, bags lb. | .03 | .03½ | .06 | .03 | .13 | .05 |
| Bleached, bags lb. | .07½ | .08 | .11½ | .07½ | .19 | .11 |
| Corn Silk, bales lb. | .05½ | .06½ | .06½ | .05½ | .06½ | .05 |
| Cotton Root Bark, bales lb. | .13 | .14 | .15 | .12 | .15 | .12 |
| Cowhage, 1 oz tins lb. | 1.00 | ..... | 1.00 | 1.00 | 1.00 | .95 |
| Cramp Bark so called bales lb. | .06½ | .07 | .08 | .06 | .08 | .05½ |
| True, bags lb. | .35 | .40 | .48 | .35 | .55 | .34 |
| Craneshill Root, bags lb. | .10 | ..... | .10 | .10 | .12 | .10 |
| **CUBEB BERRIES**, XX bags lb. | .48 | .53 | .53 | .48 | .53 | .48 |
| Powdered, boxes lb | .50 | .55 | .55 | .50 | .55 | .50 |
| Culvers Root, bags lb. | .18 | .19 | .20 | .18 | .22 | .18 |
| Cumin Seed, Malta, bags lb. | .13½ | .13½ | .13½ | .12 | .15 | .12 |
| Morocco, bags lb. | .14½ | .15¼ | .16 | .12 | .15 | .12 |
| Cuttlefish, Bone Trieste, Straps lb. | .25 | .25 | .25 | .14 | .14 | .13 |
| French, boxes lb. | .22 | .23 | .23 | .12½ | .15 | .12½ |
| Powdered, bbls lb. | .09 | .10 | .10 | .09 | .10 | .09 |
| Broken, bales lb. | .07 | ..... | .07 | .05 | .05 | .05 |
| Damiana Leaves, bales lb. | .17 | .18 | .18 | .16 | .30 | .16 |
| Dandelion Root, Imp. bags lb. | .25 | .27 | .29 | .19 | .20 | .14 |
| Deer Tongue Leaves, bales lb. | .11 | .13 | .13 | .11 | .18 | .10 |
| Digitalis Leaves, bales lb. | .23 | .25 | .70 | .23 | .70 | .30 |
| Dogwood Bark, Jamaica bags lb. | .09 | .10 | .11 | .09 | .10½ | .09 |
| American bales lb. | .06½ | ..... | .06½ | .06½ | .06½ | .06½ |
| Doggrass Root, USP, cut bags lb. | .12 | .13 | .13 | .10 | .13 | .10½ |
| Dragons Blood Mass, cases lb. | .65 | .70 | .70 | .65 | .70 | .65 |
| Reeds, boxes lb. | ..... | 3.00 | 4.00 | .90 | .95 | .95 |
| Echinacea Root, bags lb. | .23 | .25 | .28 | .23 | .33 | .26 |
| Elcampane Root, bags lb. | .08 | .09 | .09 | .08 | .09 | .08 |
| Elder Flowers, bags lb. | .50 | .55 | .55 | .22 | .25 | .19 |
| Elemi Gum, 85 lb cases lb. | .26 | .28 | .28 | .26 | .28 | .20 |
| Elm Bark, bundles lb. | .39 | .40 | .40 | .25 | .27 | .22 |
| Grinding bags lb. | .13½ | .14 | .14 | .13½ | .14 | .13½ |
| Powdered, bbls lb. | .19 | .22 | .22 | .19 | .22 | .19 |
| Ephedra Vulgaris, bales lb. | .09 | .10 | .16 | .09 | .25 | .15 |
| **ERGOT**, 150-200 lb bags lb. | .60 | .65 | .95 | .60 | 2.50 | .80 |
| Eucalyptus Leaves, bales lb. | .08 | .09 | .11 | .07 | .10 | .06½ |
| Euphorbia Pilulifera, Herb, bags lb | .06½ | .07½ | .11 | .06½ | .10 | .07½ |
| Euphorbium Gum, cases lb. | .14 | .20 | .20 | .14 | .20 | .14 |
| Fennel Seed, French, bags lb. | .14 | .14½ | .18½ | .14 | .25 | .16½ |
| German bags lb. | .16 | .18 | .27 | .16 | .32 | .20 |
| Foenugreek Seed, 200 lb bags lb. | .06 | .06½ | .06½ | .05 | .06 | .04½ |
| Fish Berries, 100-125 lb bag lb. | .06 | .07½ | .07½ | .06 | .07½ | .06 |
| Flax Seed, Whole 182 lb bbls. | 16.25 | 17.00 | 17.00 | 14.00 | 14.75 | 11.00 |
| Ground, 180 lb bbls lb. | .09 | .09½ | .09½ | .08 | .08½ | .08 |
| Flea Seeds Black bags lb. | .40 | .45 | .45 | .20 | .27 | .16 |
| Fringe Tree Bark or Root bags lb. | .20 | .22 | .24 | .19 | .27 | .22½ |
| Fumigating Pastiles, boxes lb. | .30 | .35 | .35 | .30 | .35 | .30 |
| Galangal Root, bags lb. | .11 | .12 | .15 | .11 | .15 | .11 |
| Galbanum Gum, cans lb. | .95 | 1.05 | 1.25 | .95 | 1.25 | 1.00 |
| Gamboge Gum, 100 lb cases lb. | 1.10 | 1.15 | 1.25 | 1.10 | 1.35 | 1.10 |
| Powdered, cases lb. | ..... | 1.25 | 1.40 | 1.20 | 1.50 | 1.20 |
| Gelsemium Root, bags lb. | .09 | .10 | .12 | .09 | .13 | .09 |
| **GENTIAN ROOT**, bags lb. | .09 | .10 | .11 | .09 | .11 | .09 |
| Ground bbls, boxes lb. | .13 | .14 | .14 | .13 | .14 | .11 |
| Powdered, bbls, boxes lb. | .13 | .14 | .14 | .13 | .14 | .12½ |
| Ginger, African, bags lb. | .15½ | .16 | .17½ | .13 | .14½ | .10½ |
| Jamaica Grinding bags lb. | .21 | .21½ | .21½ | .18 | .23 | .17 |
| Cochin ABC & Lemon, bags lb. | .18 | .18½ | .18½ | .17 | .20 | .16 |
| Ginseng Root, cultivated cs. lb. | 8.00 | 10.00 | 10.00 | 8.00 | 10.00 | 8.00 |
| Wild Southern, cases lb. | ..... | 16.00 | 16.00 | 16.00 | 16.00 | 8.50 |
| Golden Seal Root, bags lb. | 2.70 | 2.80 | 3.80 | 2.70 | 4.50 | 3.90 |
| Powdered, boxes lb. | ..... | 3.15 | 4.35 | 3.15 | 5.25 | 4.60 |
| Herb, barrels lb. | 1.25 | 1.30 | 1.30 | 1.25 | 1.30 | 1.25 |
| Grains of Paradise, bags lb. | .22 | .32 | .85 | .22 | .60 | .40 |
| Grindelia Robusta, Herb, bale lb. | .09 | .10 | .12 | .09 | .12 | .08½ |
| Guaiac Gum, 150 lb cases lb. | .34 | .35 | .38 | .33 | .40 | .33 |
| Strained 75 lb cases lb. | .70 | .75 | .75 | .70 | .75 | .70 |
| Guarana, tin cases lb. | 2.75 | 3.00 | 3.00 | 2.50 | 2.75 | 1.65 |
| Hellebore Root, Black, bbls. lb. | .05½ | .06 | .06 | .05½ | .06 | .05½ |
| White, 250 lb bbls lb. | .07¼ | .08½ | .08½ | .07½ | .08½ | .07½ |
| Powdered lb. | .11 | .12 | .12 | .11 | .14 | .11 |
| Helonias Root, bags lb. | .63 | .65 | .72 | .62 | .80 | .67 |
| Hemp Seed, bags lb. | .05 | .06 | .06 | .05 | .07 | .03½ |
| Henbane Leaves, USP, bales lb. | .15 | .16 | .20 | .15 | .23 | .18 |

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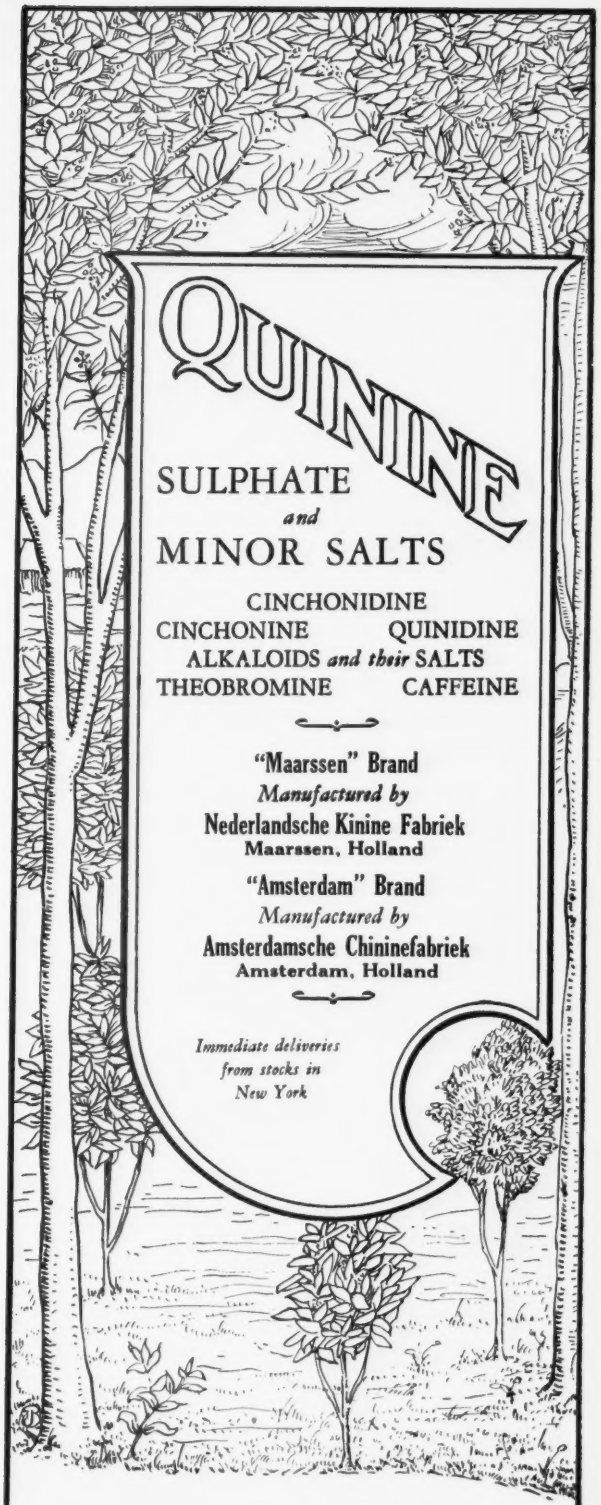

**R. W. GREEFF & CO., Inc.**
10 East 40th Street New York

*{ Monthly Review }*

## The Saffron Crop in Greek Macedonia and Market Conditions in 1929

There are no stocks of saffron available from previous crops in the Saloniki market, the entire 1928 crop having been exported to France. An attempt was made by an American firm to purchase some of this saffron but without success. The demand on the part of French importers was good and the entire quantity available was sold for shipment to France.

On account of the increased demand for saffron, larger areas were planted with crocus in 1929. There are no statistics available showing the area devoted to the production of saffron, but exporters estimate that it exceeded that in 1928 by 25 per cent. With the increased acreage, a larger crop was expected. However, crocus plantations suffered from the very cold winter of 1928-29 and unfavorable atmospheric conditions in August, 1929. The yield is, therefore, below that of 1928. According to the best estimates, the yield will not exceed 280 to 310 pounds of red saffron and 170 to 185 pounds of yellow saffron, as against 330 pounds and 187 pounds, respectively, in 1928.

The quality of the saffron produced this year is at least equal to that of last year. At the suggestion of the exporters, the villagers, who formerly used handkerchiefs when picking, now use tin cans for storing the pistils. This method is said to preserve the original aroma and color of the saffron.

On account of the smaller crop, producers are reported as holding out for higher prices for their saffron this year. They ask 3,000 drachmas ($39) per odke (2.82 pounds) whereas last year sales were made at 2,100 to 2,200 drachmas ($27.50 to $29) an oke, consisting of 60 per cent. red and 40 per cent. yellow saffron. Exporters are refraining from buying at these high prices. The saffron crop in Spain is reported to be plentiful, and it is believed that the villagers will eventually be obliged to accept prices more or less in conformity with those ruling in Spain. In view of these conditions, exports were not expected to move until late in December. (Consul Charles J. Pisar, Saloniki.)

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Juniper berries has been feeling competiton more keenly. Spot quotations are now $1.90, a decline of 15c per lb. Demand is routing with ample stocks to meet requirements.

Insect flowers are lower at 30c per lb. Lower prices abroad have prevailed and demand here has fallen off considerably.

Ipecac is coming in more freely. Price has declined to $3.80. As demand for ipecac has been small these new arrivals have added considerably to the stocks in the spot market and are being distinctly felt here. There is every likelyhood that price will go still lower.

Colocynth is particularly dull. Few inquiries have been received by dealers with keen competition reported for what business appears from time to time. Spot quotations have been made as low as 21c per lb. with few takers at these figures.

| | | Current Market | | 1929-30 High | 1929-30 Low | 1928 High | 1928 Low |
|---|---|---|---|---|---|---|---|
| **HENNA LEAVES,** bales | lb. | .12 | .13 | .13 | .12½ | .13 | .12½ |
| Powdered | lb. | .15 | .16 | .17 | .15 | .17 | .16 |
| Hops, bales | lb. | ..... | .23 | .32 | .23 | .32 | .25½ |
| Horehound, Herb, bales | lb. | .08 | .09 | .09 | .08 | .09 | .07 |
| Hydrangea Root, bales | lb. | ..... | .09 | .09 | .08 | .09 | .08 |
| Insect Flowers | lb. | .27 | .28 | .37 | .18 | .35 | .22 |
| Powdered, Pure, 200 lb bb | lb. | .30 | .31 | .46 | .25 | .45 | .32 |
| **IPECAC ROOT,** Carteagna, bags | lb. | 3.80 | 4.05 | 4.25 | 2.70 | 3.30 | 2.35 |
| Powdered, 220 lb bbls | lb. | 4.25 | 4.40 | 4.45 | 3.20 | 3.65 | 3.15 |
| Rio Whole, bags | lb. | 3.80 | 4.00 | 4.00 | 2.85 | 3.40 | 2.80 |
| Powdered, 110 lb bbls | lb. | 3.25 | 3.35 | 3.50 | 3.25 | 3.50 | 3.25 |
| Isinglass, American, 130 lb cases | lb. | .95 | 1.00 | 1.00 | .95 | 1.00 | .95 |
| Russian (Beluga), boxes | lb. | 4.50 | ..... | 4.50 | 4.50 | 4.50 | 4.50 |
| Jaborandi Leaves, bales | lb. | .22 | .22½ | .22½ | .11½ | .13 | .13 |
| Jalap Root, Whole, 150 lb bag | lb. | .36 | .39 | .45 | .24 | .21 | .16 |
| USP, Powd, 250 lb bbls | lb. | .39 | .42 | .50 | .29 | .26 | .22 |
| Japan Wax 24 lb cases | lb. | .18½ | 19 | .19 | .18½ | .19 | .18½ |
| **JUNIPER BERRIES,** 125 lb bags | lb. | .05 | .05½ | .09 | .05 | .07½ | .05 |
| Kamala, boxes | lb. | 1.20 | 1.25 | 1.40 | .82 | 1.00 | .85 |
| Kuraya Gum, Powdered, bbls | lb. | .12 | .20 | .20 | .12 | .13 | .12 |
| Kava Kava Root, bags | lb. | .14 | .15 | .15 | .14 | .16 | .15 |
| Kino Gum, Black, cases | lb. | .50 | .55 | .55 | .50 | .55 | .50 |
| Kola Nuts, 150 lb bags | lb. | .14 | .15 | .15 | .13 | .15 | .09 |
| Lady Slipper Root, bags | lb. | 1.10 | 1.15 | 1.30 | .85 | 1.75 | .78 |
| Larkspur Seed, bags | lb. | .52 | .57 | .57 | .40 | .45 | .30 |
| Laurel Berries, bags | lb. | .08 | .09 | .09 | .08 | .09 | .08 |
| Leaves, Greek, bags | lb. | .04½ | .05½ | .06 | .04½ | .07 | .04½ |
| Italian, bales | lb. | .03½ | .04 | .04 | .03½ | .05 | .03½ |
| Lavender Flowers, Ordinary | lb. | .32 | .35 | .35 | .32 | .35 | .30 |
| Selected | lb. | .45 | .46 | .46 | .43 | .55 | .40 |
| Lemon Peel, bags | lb. | .09½ | .10½ | .13 | .10 | .10 | .09½ |
| **LICORICE ROOT,** Whole bbls | lb. | .12 | .18 | .18 | .12 | .18 | .12 |
| Spanish Natural bales | lb. | .05½ | .07 | .07 | .05½ | .07 | .05½ |
| Powdered, bbls | lb. | .09 | .10 | .10 | .09 | .10 | .09 |
| Selected 2 & 5 lb bdls | lb. | .13 | .15 | .15 | .12½ | .16 | .12½ |
| Cutting, 125 lb bags | ln. | .06½ | .07 | .07 | .06½ | .07 | .06½ |
| Turkish, 150 lb bales | lb. | .05 | ..... | .05 | .05 | .05 | .05 |
| Linden Flowers with leaves, bales | lb. | .23 | .24 | .27 | .23 | .33 | .29 |
| Without leaves, bales | lb. | .27 | .28 | .32 | .27 | .36 | .27 |
| Liverwort Leaves, bales | lb. | .18 | .19 | .20 | .18 | .20 | .16 |
| Lobelia, Herb, bales | lb. | .12 | .13 | .16 | .12 | .20 | .15 |
| Seed, bags | lb. | .45 | .50 | .65 | .45 | .75 | .65 |
| Lovage Root, Imp., bags | lb. | .35 | .37 | .37 | .25 | .27 | .25 |
| Lupulin N. F., tins | lb. | 1.65 | ..... | 1.75 | 1.65 | 1.75 | 1.75 |
| Lycopodium, 88 lb. cases | lb. | .60 | .62 | .85 | .60 | 1.00 | .70 |
| **MACE SIAUW,** No. 1, cases | lb. | .76 | .77 | .86 | .76 | .98 | .88 |
| Banda No. 1, cases | lb. | .84 | .85 | .98 | .84 | 1.00 | .94 |
| Batavia No. 2, cases | lb. | .47 | .50 | .58 | .47 | .68 | .56 |
| Malva Flowers, Blue, bales | lb. | .55 | .57 | .57 | .40 | .70 | .45 |
| Black, bales | lb. | .40 | .55 | .60 | .40 | .60 | .45 |
| Leaves, bales | lb. | .12 | .13 | .15 | .12 | .15 | .14 |
| Manaca Root, bales | lb. | ..... | .24 | .24 | .22 | .22 | .22 |
| Manna, Large Flake, cases | lb. | .90 | .92 | .92 | .75 | .80 | .65 |
| Small Flake, cakes | lb. | .57 | .60 | .65 | .52 | .60 | .50 |
| Sorts, cases | lb. | .45 | .50 | .50 | .45 | .50 | .45 |
| Mandrake Root, bags | lb. | .12 | .13 | .14 | .12 | .18 | .13 |
| Marjoram, Herb | | | | | | | |
| French, No. 1 bales | lb. | .18½ | .19 | .19 | .16 | .18½ | .13½ |
| German, bales | lb. | .25 | .26 | .26 | .22 | .18½ | .12 |
| Mastic Gum, 120 lb cans | lb. | .65 | .70 | .70 | .65 | .70 | .60 |
| Matico Leaves, bales | lb. | .30 | .31 | .32 | .30 | .45 | .31 |
| Mezereon Bark, bags | lb. | .20 | .25 | .25 | .20 | .35 | .20 |
| Millet Seed, Yellow, bags | lb. | .03½ | .04½ | .04½ | .03½ | .04½ | .03½ |
| Montan Wax, Crude, bags | lb. | .06½ | .07 | .07 | .06½ | .07 | .06½ |
| Bleached, bags | lb. | .25 | .28 | .28 | .25 | .28 | .25 |
| Moss, Iceland, bales | lb. | .10 | .12 | .11 | .10 | .12 | .07½ |
| Irish, Bleached, bales | lb. | .14 | .17 | .18 | .13 | .18 | .11 |
| Mullein Flowers, tins | lb. | 1.35 | 1.40 | 2.00 | 1.35 | 2.25 | 2.00 |
| Leaves, bales | lb. | .07½ | .08 | .08 | .07½ | .08 | .07½ |
| Musk Root, Russian, bags | lb. | .09 | .10 | .12 | .09 | .25 | .11½ |
| Myrrh Gum, 200 lb, cases | lb. | .28 | .31 | .65 | .28 | 1.10 | .55 |
| Nutgalls, Chinese, bags | lb. | .22 | ..... | .22 | .22 | .22 | .22 |
| Aleppy, bags | lb. | .21 | ..... | .21 | .21 | .25 | .21 |
| Powdered, bags | lb. | .23 | ..... | .23 | .23 | .23 | .23 |
| Nutmegs, 110's cases | lb. | .25 | .26 | .31½ | .25 | .38 | .30 |
| 75's & 80's cases | lb. | .36 | .37 | .42 | .36 | .50 | .42 |
| Grinding, bags | lb | .24 | .25 | .25 | .24 | .29 | .26½ |
| **NUX-VOMICA** Buttons, bag | lb. | .05 | .06 | .06 | .05 | .05½ | .04 |
| Powdered, 200 lb bbls | lb. | .08½ | .09 | .09 | .08 | .08½ | .08 |
| Oak Bark, bags | lb. | .05 | .05½ | .05½ | .05 | .06½ | .05 |
| Olibanum Gum, 280 lb cases | | | | | | | |
| Siftings | lb. | .12½ | .14 | .15 | .12½ | .11½ | .13 |
| Tears, No. 1 Extra | lb. | .29 | .30 | .29 | .27 | .30 | .26 |
| No. 2 | lb. | .18 | .20 | .23 | .18 | .20 | .18 |
| No. 3 | lb. | .14 | .16 | .18 | .14 | .17 | .14 |
| Opium Gum, USP, cases | lb. | 12.00 | 13.00 | 13.00 | 12.00 | 13.00 | 12.00 |
| Granular, cans | lb. | 13.00 | 14.00 | 14.00 | 13.00 | 14.00 | 13.00 |
| Powdered, USP, cans | lb. | 13.00 | 14.00 | 14.00 | 13.00 | 14.00 | 13.00 |
| Orange Flowers, cases | lb. | .25 | .30 | .30 | .25 | .25 | .25 |
| Peel, Bitter, bags | lb. | .11 | .12 | .12½ | .10 | .11 | .10 |
| Sweet bags | lb. | .14 | .15 | .16 | .11 | .08½ | .08½ |
| **ORRIS ROOT,** Flor. bid. bags | lb. | .29 | .30 | .32 | .17 | .14½ | .10 |
| Powdered, 200 lb bbls | lb. | .32 | .34 | .35 | .21 | .17 | .13 |
| Verona, bags | lb. | .23 | .24 | .25 | .16 | .13 | .09 |
| Powdered, 200 lb bbls | lb. | .26 | .27 | .32 | .20 | .14 | .11 |
| Fingers, boxes | lb. | 1.00 | 1.05 | 1.20 | .90 | .90 | .80 |
| Ozokerite Wax, Brown, Hard | lb. | ..... | ..... | ..... | ..... | ..... | ..... |
| Bags | lb. | .24 | .25 | .25 | .24 | .25 | .24 |
| Green, Hard, bags | lb. | .30 | .31 | .31 | .30 | .31 | .30 |
| Yellow, Refined, bags | lb. | .37 | ..... | .37 | .37 | .37 | .37 |

## { Monthly Review }

### French Psyllium Seed Crop Reduced

The 1929 crop of psyllium seed in the Marseille region has been estimated to be only between 300 and 350 metric tons, of which not all is of good quality. There was a considerable carry-over in stocks, however, from the 1928 crop and exports will amount to approximately $100,000 during the present year. (Consul General John A. Gamon, Marseille.)

### Sarsaparilla Imports

Available statistics would indicate slightly increased imports of sarsaparilla during 1929. Imports for the past four years and nine months of 1929 are shown in the following table:

| | 1925 | 1926 | 1927 | 1928 | 9 Mos. 1929 |
|---|---|---|---|---|---|
| Pounds | 138,000 | 131,000 | 212,000 | 108,000 | 93,000 |
| Value | $41,000 | $26,000 | $44,000 | $20,000 | $20,00 |

Citrate of lime prices in Italy have been maintained at a fixed figure of 700 lire per quintal with very weak demand says a cable dated Jan. 3. The anticipated reduction in price has not been forthcoming despite the fact that Italy has lost a very large part of its export market in this country and parts of Europe.

### Exports of Pyrethrum Flowers from Yugoslavia

In 1928 exports of pyrethrum flowers from Yugolsavia were 836 metric tons, valued at $303,864, compared with 734 metric tons, valued at $146,679 in 1927. The exports to the United States were 297 metric tons, valued at $105,226 in 1928 and 163 metric tons, valued at $32,076 in 1927. Statistics show that the chief importer is Italy, which in 1928 imported 63 per cent. of the total Yugoslav exports. This is deceptive as, no doubt, the bulk of the Italian imports is reexported through the port of Trieste. Other countries importing small quantities of pyrethrum flowers from Yugoslavia are France, Great Britain and Hungary.

Burdock root has experienced a sharp decline during the past month. Stocks are now freely offered at 12c from a high price last month of 17c per lb. Lack of demand with a desire on the part of dealers to dispose of stocks has caused the recession.

Grains of paradise is reported as a particularly dead issue at this time. The market is considerably easier at 22c, a decline of approximately 8c per lb. during the past two weeks.

Imports of papain juice or crude papain during 1927, 1928, and the first 9 months of 1929, amounted to 63,000 pounds valued at $200,000; 122,000 pounds valued at $346,000, and 83,000 pounds valued at $179,000 respectively. This represents an increase of approximately 100 per cent.

| | Current Market | | 1929-30 High | 1929-30 Low | 1928 High | 1928 Low |
|---|---|---|---|---|---|---|
| Papain, Crude, 150 lb cases | lb. | 3.10 | 3.15 | 3.50 | 2.95 | 4.90 | 3.45 |
| Pure, Powdered, 10 lb bot. | lb. | 3.25 | 3.30 | 3.55 | 3.10 | 4.35 | 3.50 |
| Paprika, bags | lb. | .23½ | .24 | .33 | .23½ | .33 | .23 |
| Pareira Brava Root, bags | lb. | .13 | .14 | .14 | .11 | .12 | .11 |
| Passion Flower, bales | lb | .07½ | .08½ | .75 | .07½ | .15 | .06½ |
| Patchouli Leaves, bales | lb. | .20 | .21 | .23 | .20 | .29 | .22 |
| Pennyroyal, Herb, 100 lb bags | lb. | .07 | ..... | .07 | .07 | .07 | .07 |
| Leaves, 100 lb bags | lb. | .14 | .16 | .16 | .14 | .16 | .14 |
| **PEPPERMINT LEAVES,** Imp bales | lb. | .65 | .75 | .75 | .43 | .50 | .43 |
| Domestic, bales | lb. | .40 | .41 | .46 | .24 | .40 | .24 |
| Pichi Leaves, bags | lb | .12 | .13 | .16 | .12 | .14 | .13 |
| Pimento Select, bags | lb. | .19 | .19½ | .30½ | .19 | .23 | .16½ |
| Pink Root, True, bags | lb. | .50 | .52 | .60 | .50 | .75 | .58 |
| Pleurisy Root, bags | lb. | .22 | .23 | .28 | .21 | .28 | .22 |
| Poke Berries, bags | lb. | ..... | .18 | .30 | .18 | .30 | .20 |
| Root, 200 lb bales | lb. | .08 | .08½ | .08½ | .07½ | .10 | .07½ |
| Pomegrant Bark of Root, bags | lb. | .30 | .35 | .35 | .20 | .44 | .20 |
| Bark of Fruit, bags | lb. | .25 | .30 | .30 | .25 | .30 | .30 |
| Bark of Tree, bags | lb. | .18 | .22 | .22 | .15 | .21 | .15 |
| **POPPY FLOWERS,** Red, bags | lb. | .55 | .60 | .60 | .50 | .65 | .50 |
| Heads, bags | lb. | .50 | ..... | .50 | .50 | .50 | .08 |
| Prickly Ash Bark | lb. | .14 | .17 | .17 | .14 | .17 | .14 |
| Southern bags | lb. | .13½ | .14 | .14 | .13½ | .16 | .13½ |
| Northern, bags | lb. | .15 | .16 | .18 | .15 | .25 | .16 |
| Berries, bags | lb. | .23 | .24 | .24 | .19 | .22 | .17½ |
| Prince's Pine, bales | lb. | .35 | .37 | .50 | .15 | .17 | .14 |
| Pulsatilla, Herb, bags | lb. | .11 | .12 | .14 | .11 | .14 | .11 |
| Pumpkin Seed, bags | lb. | .14 | .15 | .15 | .14 | .25 | .14 |
| Quassia Chips, bags | lb. | .06½ | ..... | .06½ | .06½ | .06½ | .06½ |
| Quebracho, bulk, 125 lb. bbl. | lb. | .30 | .31 | .31 | .29 | .36 | .29 |
| Root, bags | lb. | ..... | .07 | .07 | .07 | .08 | .07 |
| Quince Seed, bags | lb. | .80 | .90 | .80 | .70 | .80 | .60 |
| Cape, bags | lb | .95 | 1.10 | 1.25 | .80 | 1.50 | .95 |
| Rape Seed, South American, bags | lb. | .05½ | .06 | .06 | .05½ | .06½ | .04½ |
| Dutch, bags | lb. | .06 | .06½ | .07½ | .06 | .07½ | .05½ |
| Japanese, small bags | lb. | .04½ | .05½ | .07 | .04½ | .07 | .06½ |
| Raspberries, Dried, bbls. | lb. | .45 | .55 | .60 | .45 | .85 | .45 |
| Red Saunders, bags | lb. | .08 | ..... | .08 | .08 | .08 | .08 |
| Rhatany Root, bags | lb. | .11 | .12 | .13 | .11 | .12 | .11 |
| Rhubarb Root, HD, cases | lb. | .24 | .25 | .41 | .24 | .45 | .38 |
| Powdered, bbls. | lb | .28 | .30 | .46 | .28 | .53 | .43 |
| Rosemary Leaves, bales | lb. | .05 | .05½ | .06 | .04½ | .06 | .04½ |
| Flowers, cases, bales | lb. | .25 | .30 | .30 | .25 | .30 | .25 |
| Rose Petals, pale | lb. | .30 | .31½ | .42½ | .30 | .45 | .38 |
| Red | lb. | 1.65 | 1.70 | 1.80 | 1.65 | 2.20 | 1.70 |
| Rue, Herb, bales | lb. | .18 | .20 | .20 | .18 | .20 | .18 |
| Sabadilla Seed, bags | lb. | .28 | .29 | .34 | .28 | .35 | .30 |
| Powdered, bbls. | lb. | .27 | .28 | .39 | .27 | .38 | .32 |
| **SAFFRON FLOWERS,** American, bales | lb. | .28 | .33 | .40 | .28 | .40 | .29½ |
| Valencia, 1 lb cans | lb. | 10.50 | 11.50 | 12.00 | 10.50 | 16.00 | 11.25 |
| Sage Dalmatian, bales | lb. | .05½ | .06 | .06 | .05½ | .07 | .05½ |
| Greek, bales | lb. | .05½ | .06 | .06 | .05½ | .06 | .04½ |
| Sandarac Gum, 300 lb bbls. | lb. | .70 | .75 | .75 | .40 | .43 | .30 |
| Sarsaparilla Root, Honduras, bales | lb. | .53 | .54 | .55 | .53 | .58 | .52 |
| Mexican, bales | lb. | .23 | .25 | .40 | .23 | .29 | .20 |
| Sassafras Bark, Ordinary, bales | lb. | .14 | .16 | .16 | .14 | .17 | .13½ |
| Select, bales | lb. | .22 | .24 | .28 | .22 | .27 | .23 |
| Savory Leaves, bale | lb. | .08½ | .09 | .09 | .08½ | .10 | .07½ |
| Saw Palmetto Berries, bags | lb. | .09 | .10 | .12 | .09 | .20 | .11 |
| Scammony Resin, boxes | lb. | 1.30 | 1.35 | 1.35 | 1.30 | 1.35 | 1.30 |
| Root, bags | lb. | .08½ | ..... | .08½ | .08½ | .08½ | .08½ |
| Senega Root, bags | lb. | 1.00 | 1.05 | 1.35 | 1.00 | 1.40 | 1.27 |
| **SENNA ALEX.,** 150 lb cases | lb. | .25 | .30 | .30 | .25 | .30 | .25 |
| Half leaf 150 lb cases | lb. | .12½ | .14½ | .15 | .12½ | .15 | .13 |
| Sifting, 400 lb bales | lb. | .11 | .11½ | .11½ | .10½ | .11 | .10½ |
| Tinnevelly, Bold, 350 lb bales | lb. | .16 | .18 | .18 | .16 | .20 | .15 |
| Medium Leaf | lb. | .11 | .12 | .12 | .10 | .13½ | .09 |
| Small Leaf | lb. | .07 | .09 | .10 | .07 | .10 | .07 |
| Pods, 350 lb | lb. | .08 | .08½ | .11½ | .08 | .13 | .08½ |
| Powdered, 200 lb | lb. | ..... | .11 | .11 | .11 | .10 | .11 |
| Serpentaria Root, bags | lb. | .65 | .68 | .72 | .65 | .77 | .70 |
| Shellac, T. N., bags | lb. | .57 | .58 | .58 | .57 | .58 | .57 |
| Simaruba Bark, bales | lb. | .23 | .28 | .40 | .20 | .38 | .05 |
| Skullcap Leaves, Eastern, bales | lb. | ..... | .75 | .75 | .40 | .40 | .33 |
| Western, bales | lb. | .34 | .35 | .35 | .18 | .26 | .18 |
| Skunk Cabbage, Striped, bales | lb. | .14 | .16 | .16 | .14 | .16 | .14 |
| Snake Root, Canada Natural, bags | lb. | .27 | .28 | .28 | .24 | .30 | .24 |
| Canada, Stripped, bags | lb. | .55 | ..... | .55 | .55 | .55 | .55 |
| Soap Bark | lb. | .14 | .15 | .15 | .14 | .15 | .14 |
| Cut, 125-175 lb bags | lb. | .10 | .10½ | .16 | .10 | .17 | .16 |
| Crushed, 200 lb bbls. | lb. | .16 | ..... | .16 | .16 | .17 | .16 |
| Powdered, bbls. | lb. | .17 | ..... | .17 | .17 | .18 | .18 |
| Spearmint Leaves, American, bales | lb. | .32 | .37 | .37 | .25 | .30 | .25 |
| Spermaceti, blocks, cakes, cases | lb. | .32 | .35 | .35 | .32 | .35 | .32 |
| Spikenard Root, bags | lb. | .18 | .18½ | .20 | .18½ | .25 | .20 |
| Squaw Vine, bales | lb. | .17 | .18 | .21 | .17 | .21 | .21 |
| Squills, White | lb. | .07½ | .08½ | .13 | .07½ | .16 | .08 |
| Powdered, bulk | lb. | .23 | .25 | .25 | .20 | .30 | .15 |
| Stavesacre Seed, bags | lb. | .16 | .17 | .18 | .16 | .18 | .15½ |
| Stillingia Root, bags | lb. | .08 | .09 | .12 | .08 | .12 | .10 |
| Stone Root, bags | lb. | .08 | .09 | .09 | .08 | .09 | .08 |
| St. Ignatius Beans, bags | lb. | .14½ | .15 | .15 | .14½ | .15 | .14½ |
| St. John's Bread, bags | lb. | ..... | .09 | .09 | .09 | .14½ | .09 |
| **STRAMONIUM LEAVES,** bales | lb. | .16 | .18 | .20 | .16 | .20 | .16 |
| Seed, bags | lb. | .07½ | ..... | .07½ | .07½ | .07½ | .07½ |

## [ Monthly Review ]

### Market for Senega Root in North of England

There is a limited market among manufacturing chemists in the north of England for senega root, which is mainly used in the preparation of cough medicines. While two varieties seem to be recognized, the most important commercially is the northern or Manitoba senega. The demand among medicinal manufacturers is, of course, largest during the winter but the buying is generally done in the summer months. The annual requirements for the Liverpool and Manchester area, in the opinion of one or two authorities, would not exceed six tons, although additional manufacturers in other centers throughout the north might also be expected to use this commodity.

The trade seems to be mainly in the hands of London drug importers who canvass the individual manufacturers for their seasonal requirements. These London houses obtain their supplies either through United States exporters or from firms in western Canda.

The market value of this commodity has shown wide variation for a number of years, and when prices go beyond certain levels consumption falls off. This season competitive quotations are reported at around from 3s. 9d. (91 cents) to 3s. 10d. (93 cents) per pound c. i. f. United Kingdom port. One firm of manufacturing chemists, who recently bought through London importers, paid in the neighborhood of 4s. 1d. (99 cents) to 4s. 2d. ($1.01) ex rail London, but of course prices for secondary transactions of this kind depends a good deal on the quantity purchased. As buyers are particular about the quality, this should be carefully considered by exporters seeking new connections when packing and grading. (Commercial Intelligence Journal, Ottawa.)

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### Present Conditions in the Ergot of Rye Market in Northern Spain

According to figures compiled by Consul Walter H. McKinney, the exportations of ergot of rye through Vigo during the crop year of 1928 amounted to 45,536 pounds, valued at $29,681, as compared with 23,768 pounds, valued at $13,645, exported to date (December 28, 1929) in the current crop year.

The price quoted by local dealers is approximately six pesetas per kilo ($0.84) delivered in New York, while it appears that the Russian product can be purchased in Hamburg at considerably lower prices. Despite its higher price small shipments of Spanish ergot are being made continually to Hamburg where, according to the statement of the local exporters, it is used for mixing with the cheaper Russian product to tone it up and give it a greater ergotine strength.

It is reported that there is available for immediate exportation in the hands of dealers of ergot in the Vigo district about 20 metric tons of ergot for which a price of from 5 to 6 pesetas per kilo c. i. f. New York is now being asked. The quality of this year's crop is said to be better than for many years past. A few tons of ergot from the crop of 1928 remain unsold but the quality of this is deteriorating so rapidly that it is of little value for export purposes.

| | Current Market | | 1929-30 High | 1929-30 Low | 1928 High | 1928 Low |
|---|---|---|---|---|---|---|
| Strophanthus Seed, Kombe, bags....lb. | 2.25 | 2.5 | 2.50 | 2.00 | 3.00 | 2.00 |
| Styrax Liquid, Artificial....lb. | .26 | .35 | .35 | .26 | .35 | .26 |
| Genuine, USP....lb. | .40 | .45 | .45 | .40 | .45 | .36 |
| Sunflower Seed, bags Calif...lb. | .04¾ | .05 | .07 | .04¾ | .09 | .06 |
| South American, bags....lb. | .07 | .07½ | .07½ | .07 | .07½ | .06 |
| Tamarinds, bbls....lb. | .09½ | .10 | .10 | .05 | .06 | .05 |
| Kegs....keg | 3.85 | ..... | 3.75 | 3.85 | 3.85 | 3.85 |
| Tansy, Herb, bales....lb. | .15 | .16 | .16 | .11 | .14 | .11 |
| Thus Gum, 280 lb bbls....lb. | .11¾ | .20 | .20 | .11¾ | .20 | .11¾ |
| **THYME**, Spanish, bales....lb. | .11 | .11½ | .16 | .08½ | .09 | .08½ |
| French, bales....lb. | .11½ | .12 | .12½ | .08 | .08½ | .07 |
| Tonga Root, bundles....lb. | .42 | ..... | .42 | .42 | .55 | .42 |
| Vine, bundles....lb. | .42 | ..... | .42 | .42 | .55 | .42 |
| Tonka Beans, Angostura Cases ....lb. | 1.75 | 1.85 | 2.00 | 1.75 | 2.00 | 1.90 |
| Para cases....lb. | .90 | ..... | .90 | .90 | .90 | .90 |
| Surinam cases....lb. | 1.00 | 1.10 | 1.50 | 1.00 | 1.50 | 1.25 |
| Tragacanth Gum, No 1, 100 lb cases....lb | 1.45 | 1.50 | 1.60 | 1.50 | 1.60 | 1.55 |
| No. 2....lb. | 1.30 | 1.40 | 1.50 | 1.30 | 1.50 | 1.40 |
| No. 3....lb. | 1.10 | 1.20 | 1.30 | 1.10 | 1.30 | 1.25 |
| Powdered, 50 lb boxes....lb. | .90 | 1.00 | 1.10 | .90 | 1.10 | .85 |
| Turkish cases....lb. | .50 | .90 | .90 | .45 | .45 | .45 |
| Turmeric Root Madras, bags.lb. | .08½ | .08¾ | .09 | .08½ | .12 | .06 |
| Aleppy bags....lb. | .08½ | .09 | .10 | .08½ | .13 | .06½ |
| Powdered....lb. | .13 | .15 | .15 | .13 | .15 | .10 |
| China bags....lb. | .11 | .12 | .12 | .11 | .11 | .09 |
| Turpentine Venice True, 80 lb cases....lb. | .32 | .40 | .40 | .32 | .40 | .3 |
| Artificial, 80 lb cases....lb. | .17 | .18 | .18 | .17 | .17 | .12 |
| Uva Ursi Leaves, bales....lb. | .06 | .06½ | .06½ | .06 | .07 | .07 |
| Valerian Root, Belgium, bags ....lb. | .18 | .20 | .30 | .18 | .30 | .16 |
| **VANILLA BEANS**, Mexican, whole, cases....lb. | 3.50 | 4.50 | 4.50 | 3.25 | 4.00 | 4 3.25 |
| Cuts, cases....lb. | 3.15 | 3.30 | 3.30 | 2.50 | 2.75 | 2.50 |
| Bourbon, cases....lb. | 1.85 | 2.50 | 2.65 | 1.75 | 2.75 | 2.00 |
| South American, cases....lb. | ..... | 3.00 | 3.00 | 2.50 | 2.75 | 2.50 |
| Tahiti, Green, label cases..lb. | 1.75 | 2.00 | 2.50 | 1.75 | 2.50 | 2.25 |
| Vetivert Root, 100 lb bags..lb. | .25 | ..... | .25 | .25 | .30 | .25 |
| Violet Flowers, bags....lb. | .75 | .80 | 1.00 | .68 | .90 | .63 |
| Wahoo Bark of Root, bags..lb. | .52 | .53 | .56 | .51 | .62 | .51 |
| Bark of Tree, bags....lb. | .25 | .26 | .31 | .25 | .35 | .25½ |
| White Pine Bark, Roseed, bags ....lb. | .07½ | .09½ | .15 | .07 | .08 | .07 |
| White Poplar Bark, bags....lb. | .06 | .07½ | .07½ | .05½ | .07 | .05½ |
| Wild Cherry Bark, Thin, Green ....lb. | .14 | .15 | .20 | .14 | ... | ..... |
| Rossed bales....lb. | .11 | .12 | .12 | .11 | .12 | .11 |
| Thick Rossed, bales....lb. | .09 | ..... | .09 | .09 | .09 | .09 |
| Thin Natural, bales....lb. | .08 | .09 | .09 | .07½ | .08 | .07½ |
| Thick Natural, bales...lb. | .06 | .06½ | .06½ | .05 | .06 | .05 |
| Wild Indigo Root, bags....lb. | .14 | .15 | .15 | .13 | .14 | .13 |
| Willow Bark, bags....lb. | .05 | .05½ | .05½ | .05 | .06 | .05 |
| White, bags....lb. | .15 | ..... | .15 | .15 | .05 | .15 |
| Witch Hazel Bark, bags....lb. | .07 | .08 | .08 | .05½ | .08 | .06½ |
| Leaves, bales....lb. | .07 | .08 | .08 | .06½ | ..... | ..... |
| Wormseed, American, bags..lb. | ..... | .08½ | .13 | .08½ | .20 | .15 |
| Levant, bags....lb. | 3.50 | 3.65 | 4.15 | 3.50 | 5.25 | 4.25 |
| Wormwood, Herb, Imp., bales ....lb. | .08 | .08½ | .10½ | .08 | .10½ | .10 |
| Dock Root, bags....lb. | .13 | .14 | .14 | .10 | .11 | .10 |
| Yerba Mate, bags....lb. | .18 | .20 | .20 | .18 | .20 | .18 |
| Santa, bags....lb. | .09 | .10½ | .11½ | .09 | .11 | .09½ |
| Zedoary Root, bags....lb. | .07 | .08 | .08 | .06½ | .07 | .06½ |

## Miscellaneous

| | | | | | | |
|---|---|---|---|---|---|---|
| Castor Oil, odorless, bbls....lb. | ..... | .13½ | ..... | ..... | ..... | .13½ |
| Chalk drop, 175 lb. bbls....lb. | ..... | .03½ | .03½ | .03½ | .03½ | .03½ |
| Precip. light, 250 lb. cask..lb. | ..... | .04½ | .04½ | .04½ | .04½ | .04½ |
| Heavy 540 lb. casks....lb. | ..... | .02½ | .03½ | .02½ | .03½ | .02½ |
| Bulk....ton | ..... | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 |
| English 7 lb. bags....lb. | ..... | .08½ | .08½ | .08½ | .08½ | .08½ |
| Cocoa Butter, 12 lb. box....lb. | .42 | .45 | .45 | .42 | .50 | .40 |
| Cod Liver Oil Nor. 30 gal. bbls ....bbls. | 29.00 | 30.00 | 36.00 | 22.00 | 48.00 | 38.00 |
| Newfoundland....bbl. | ..... | 30.00 | 46.00 | 30.00 | 46.00 | 46.00 |
| Collodion U. S. P. 30 lb. dr...lb. | ..... | .23 | .23 | .23 | .23 | .23 |
| Corn Syrup 42° 50 gal. bbl. ....100 lb. | 3.91 | 4.16 | 4.16 | 3.91 | 4.51 | 3.31 |
| Gelatin, USP, Silver 100 lb. cases....lb. | .55 | .60 | .60 | .55 | .60 | .55 |
| Pure Food, 50 lb. bbl....lb. | .53 | .55 | .55 | .55 | .53 | .53 |
| Glucose, (grape sugar) dry 70° bags c-l NY....100 lb. | 3.14 | 3.24 | 3.24 | 3.14 | 3.24 | 3.14 |
| Haarlem Oil, bot 6 gross cases ....gross | ..... | 3.75 | 3.25 | 3.25 | 3.25 | 3.25 |
| Imported, 5 gr. cs....gross | ..... | 3.50 | 3.50 | 3.50 | 3.50 | 3.50 |
| Mineral Oil White, 50 gal. bbls. 80-85 vis....gal. | .50 | .55 | .67 | .50 | .67 | .60 |
| 85-90 vis....gal. | .65 | .70 | .70 | .65 | .70 | .65 |
| 125-130 vis....gal. | .75 | .85 | .92 | .65 | .92 | .70 |
| 290 vis....gal. | .90 | 1.10 | 1.10 | .90 | 1.10 | 1.00 |
| Russian 110-115 vis....gal. | .70 | .80 | .80 | .70 | .75 | .70 |
| 145-155 vis....gal. | .74 | .84 | .89 | .67 | .80 | .67 |
| 320-330 vis....gal. | .82 | .92 | .97 | .75 | .95 | .80 |
| Olive Oil, Edible bbls....gal. | 2.00 | 2.40 | | | | |
| Petrolatum, Lily White, USP. 400 lb. bbl....lb. | .08 | .09 | .09 | .08 | .10 | .09 |
| Snow White USP, 400 lb. bbls....lb. | .09¾ | .10 | .10 | .09¾ | .13¾ | 11¾ |
| Soap Castile, 50 lb. box....lb. | ..... | .25 | .25 | .25 | .25 | .25 |
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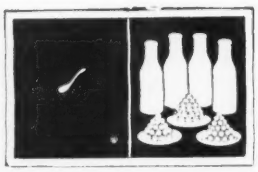

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In addition to the two principal alkaloids, lycorine, $C_{16}H_{17}NO_4$ and secisanine, $C_{16}H_{19}NO_4$, a phenolic base, secisanoline, $C_{18}H_{23}NO_5$, and an alkaloid,$C_{19}H_{23}NO_4$, homolycorineare also isolated from lycoris radiata. Secisanoline decomposes at a temperature of 152° C. It contains a dioxymethylene group and one or probably two phenol-hydroxyl groups in the free state. Lycorine melts at a temperature of 175° C.; the optical angle of rotation at a temperature of 20° C. is plus 65° C 10 minutes to the right. There are two metoxyl groups and two non-phenolic hydroxyl groups in the alkaloid. H. Kondo and K. Tanimura, Journal of the Pharmaceutical Society of Japan, 1929, through Pharmazeutische Zeitung, 1929, number 69, pages 1098ff.


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